

ORIENTAL GLASS

*"There is perhaps no problem in
the history of art more difficult
to solve than that of the earliest
application of lustre ornamentation."*

(H. Wallis.)

2225

KUNGL. VITTERHETS HISTORIE OCH ANTIKVITETS
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ORIENTAL GLASS OF MEDIAEVAL DATE
FOUND IN SWEDEN AND THE EARLY
HISTORY OF LUSTRE-PAINTING

2225

BY

CARL JOHAN LAMM



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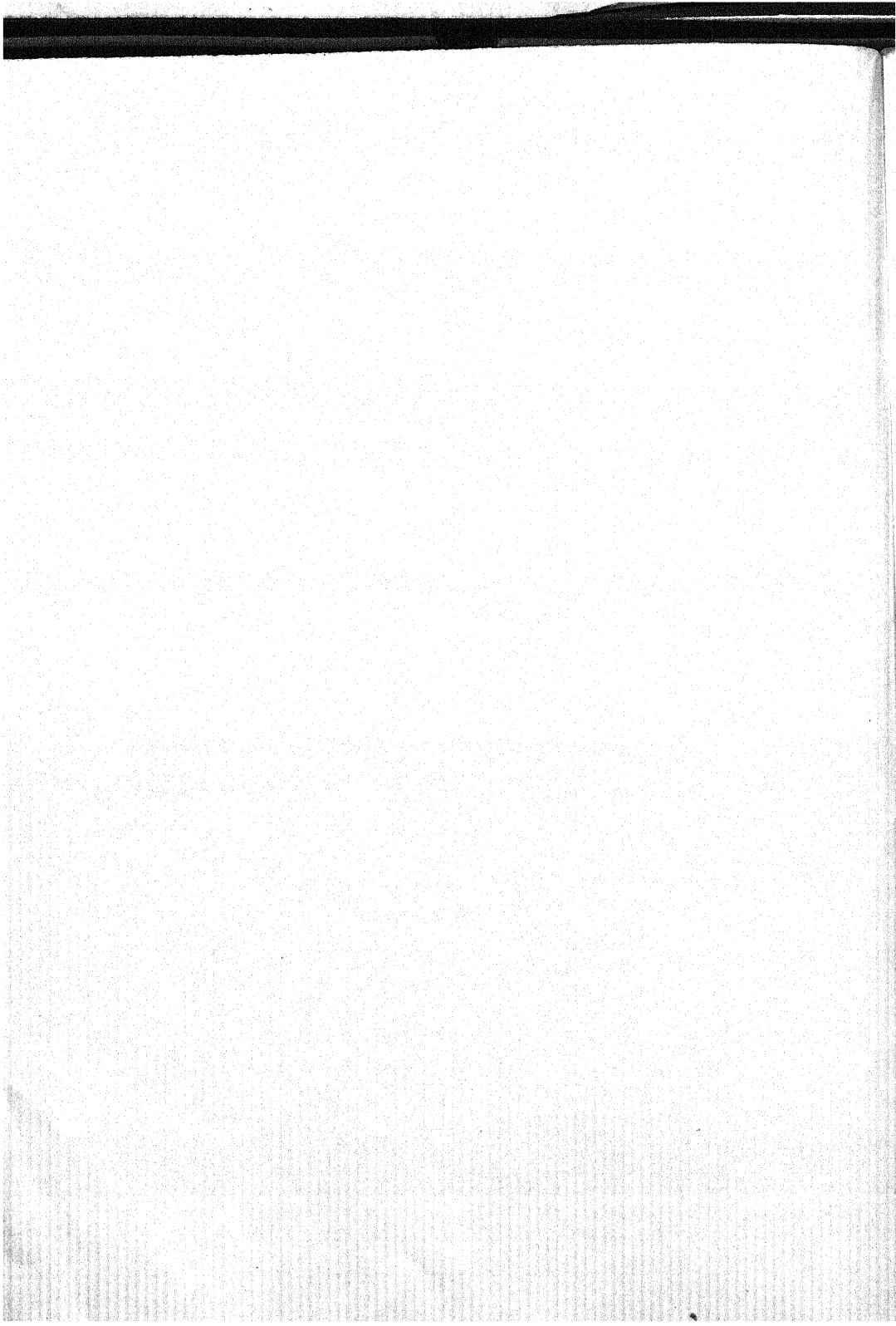
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CHAPTER I

Grave-Finds from Barkarby and Birka.

The military area known as Järvafältet is situated north-west of Stockholm within the parishes of Solna, Spånga, Järfälla and Sollen-tuna. Like most parts of the province of Uppland, the nucleus of the State of Svea, it is extremely rich in prehistoric relics, the majority of which consists of tombs dating from various parts of the first millennium. A. D.¹ The westernmost part of this military ground contains the aerodrome of Barkarby, in the parish of Järfälla. Levelling-work that was made here afforded opportunity of exploring a burial-ground west of Ålsta, a farm-stead situated at a distance of 16 km. from the geographical centre of Stockholm. The excavations were conducted on behalf of the Antiquarian of the State by Mr. J. E. Anderbjörk of the State Historical Museum, in which all the objects found are now preserved.² The entire burial-ground consists of sixty-nine tombs, two of which were excavated by Mr. Anderbjörk towards the end of July, 1938.³ These tombs are of a simple type, in general use in Uppland during the Viking age.⁴ Tomb No. 14 is a barrow only 0.5 m. high with a diameter of 13—14 m. It consists of earth sparsely set with stones, the largest extension of which is between 0.4

¹ K. A. Gustawsson, *Järvafältets fornlämningar. Svenska fornminnesplatser*, XI, Stockholm, 1929.

² The author wishes to acknowledge his gratitude to Mr. Anderbjörk and to other members of the staff of this museum who enabled him to collect the material — to a great extent unpublished — on which the present work is primarily based. His thanks are in a similar way due to the authorities of other museums who put material at his disposal. — *Figs. 1—6* are from drawings kindly made by Mr. H. Faith-Ell, while the author is indebted to his mother, Mrs. Dora Lamm, for the drawings reproduced in *figs. 8—18*, and to Dr. Phil. Marianne Beyer-Fröhlich and Mrs. J. S. Herrström for a most valuable assistance.

³ K. A. Gustawsson, *op. cit.*, p. 20, fig. 11, map No. 20.

⁴ MS. report in the State Historical Museum.

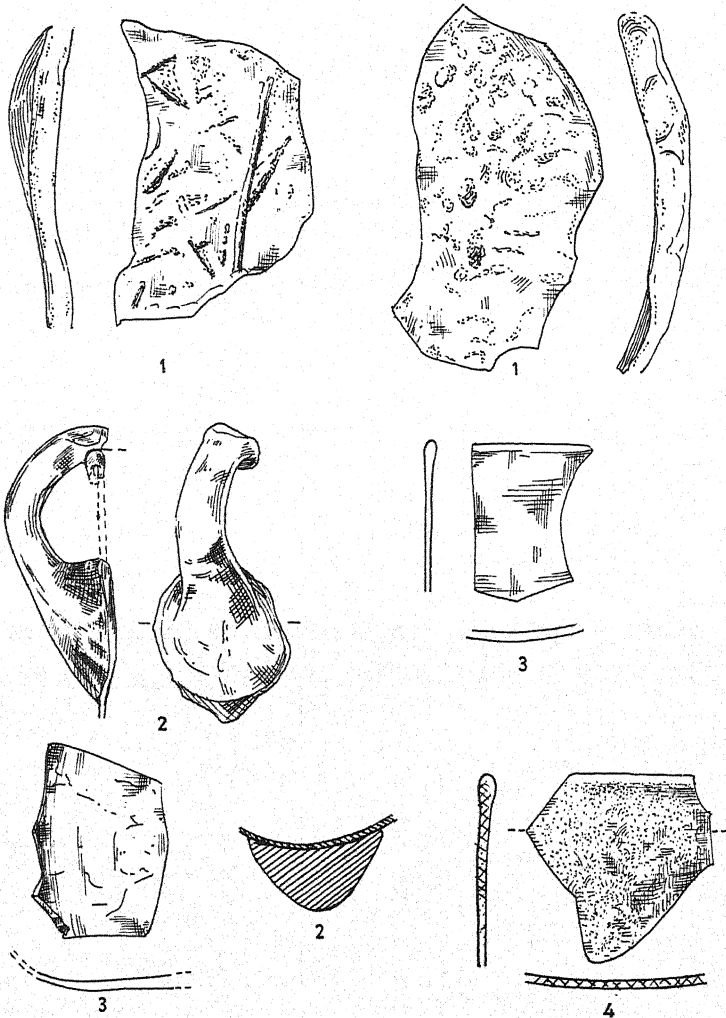
and 1.3 m. The cremation layer is 0.2 m. thick with a diameter of 3 m. In this layer was found a cinerary urn, roughly worked in pottery, as well as fragments of two other urns. The complete urn contained incinerated bones of men and animals as well as an iron ring bearing some small 'Thor's hammers',⁵ testifying that the dead were worshippers of Thor. The loose finds comprised, besides small fragments of iron, bronze and horn, fourteen beads of glass, carnel and rock crystal as well as a number of fragments of glass vessels, badly damaged by the fire. Three of these fragments show remains of painted ornament which Dr. H. Arbman recognized as faded lustre-painting of a type produced in Egypt. After having kindly shown these fragments to the present writer, Dr. Arbman wrote a record of the find for a Swedish newspaper⁶ which found echo in the foreign press. The fragments (*figs. 1—6, Pl. I*) belong to six vessels at least, none of which can be reconstructed into its original shape.

The two largest fragments (*fig. 1, Pl. I, 1*) may belong to one and the same vessel made of fairly thick glass of light green colour. The fragments have been contorted by the heat of the funeral pile; on the same occasion linear depressions were produced which have a certain similarity to indented ornamentation of the same technique as that used for the cup reproduced on *Pl. I, 2*. It is impossible to decide whether this fragment is of Frankish or Oriental origin. Of another vessel, made of thin, greenish glass, still absolutely clear, one handle has been preserved (*fig. 2, Pl. II, 2*). The upper end of the handle has been fixed to the lip of the straight neck, which is folded outwards in a manner that speaks in favour of an attribution to the Islamic East. The lower end of the handle is extended in a way reminiscent of the fragments of a lustred vase of Egyptian origin (*fig. 5, Pl. I, 5*) to be described in the following.

Two other fragments of thin glass of greenish tinge (*fig. 3, Pl. I, 3*) probably belong to one and the same cup of cylindrical shape, one fragment forming part of the straight edge, the other (reproduced from the inside), of the flat bottom. The surface is still clear, but shows a number of veins and cracks. Cylindrical cups were a favourite type

⁵ Cf. M. B. Mackeprang, *Tilskueren*, Sep., 1938, pp. 179—81.

⁶ *Dagens Nyheter*, Nov. 16, 1938; the article is not signed, and the reproductions do not comprise the fragments found at Barkarby.



Figs. 1—4. Fragments of undecorated glass vessels found at Barkarby, Uppland. Frankish or Oriental, 9th-10th century. State Historical Museum, Stockholm. ³/₂. (Cf. Pl. I, 1—4.)

of the Abbasid glass industry (cf. *Pls. II, 2, and III*). On the other hand one is reminded of a fragmentary glass cup of the 9th century found at Birka, which H. Arbman seems to regard as Carolingian work.⁷

⁷ *Schweden und das Karolingische Reich*, Stockholm, 1937, pp. 54 f., Pl. 15, 5.

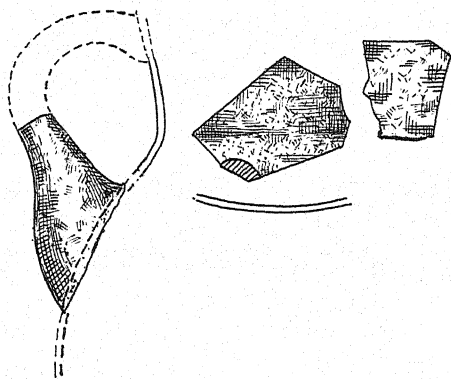


Fig. 5. Fragments of lustred glass vessel found at Barkarby, Uppland. Egypt. 9th or early 10th century. State Historical Museum, Stockholm. ³/₂. (Cf. Pl. I, 5.)

The grave at Barkarby has yielded another fragment of the edge of a cylindrical cup (*fig. 4, Pl. I, 4*), which is of similar type, but made of thin glass of manganese violet (purple) colour. The metal of the vessel speaks in favour of an Oriental origin, although an attribution to a Frankish glasshouse is by no means excluded.

The lustred fragments, three in number, belong to two or three vessels made of greenish glass with a faded surface. On one fragment the painting is limited to a dark brown spot applied on the outside of the vessel and forming the upper part of a decoration of unknown description. Two more fragments, both undecorated, seem to belong to the same vessel (*fig. 5, Pl. I, 5*), a vase of a shape somewhat resembling a mosque lamp. One of the fragments consists of the lower attachment of a handle of a type already described.

The two other fragments decorated in lustre-painting (*fig. 6, Pl. I, 6*) have been contorted by the fire, but may nevertheless be recognized as forming parts of a cylindrical cup or, as the smaller fragment is slightly thinner than the larger one, of two cups of identical shape and decoration. The painting, which has lost its original brilliancy, is applied on both sides of the vessel. The linear painting on the outside is of a pale brownish green colour which changes into a deeper brown when the glass is regarded from the inside in transparent light. Close to the edge there are dots arranged in rhombic fashion and devices having some similarity to Coptic (or Greek) letters. This decoration is painted on the outside of the glass only. Below is a bird, an 'ideal reconstruction' of which is given in *fig. 6*. The design shows

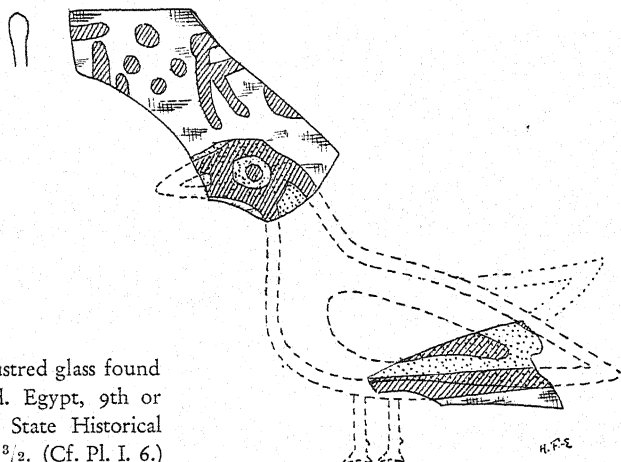


Fig. 6. Fragments of lustred glass found at Barkarby, Uppland. Egypt, 9th or early 10th century. State Historical Museum, Stockholm. ³/₂. (Cf. Pl. I. 6.)

the alternatives of a split and a single-pointed tail. Even granted that the two fragments form part of the same vessel (which is not at all certain), it is quite possible that the portions of the design that have been preserved belong to two different birds. The complete design has most likely consisted of a series of birds facing in the same direction, a type of decoration that is quite common within a group of Abbasid glass vessels, chiefly cylindrical cups, with ornament indented from both sides. A green glass cup of this type is reproduced in *Pl. II*, 2.⁸ This glass may be regarded as Egyptian product of the late 9th century or about 900, thus probably dating from the Tulunid period (868—905).

Of similar shape is the well-known 9th century cup of Iraqi or Persian manufacture (*Pl. III*) found by Hj. Stolpe in tomb No. 542 at Birka,⁹ the commercial centre of the land of Sveas during the Viking

⁸ See C. J. Lamm, *Mittelalterliche Gläser und Steinschnittarbeiten aus dem Nahen Osten* (cited *Gläser*), Berlin, 1929—30, I, p. 71, II, Pl. 19, 10.

⁹ Hj. Stolpe, *Kongl. Vitterhets, Historie och Antiquitetsakademiens Månadsblad*, Year VII, Vol. III, 1, 1878, pp. 681 f.; O. Almgren, *ap. A. Kisa, Das Glas im Altertume*, Leipzig, 1908, III, p. 914, fig. 392; T. J. Arne, *Svenska Orientsällskapet, Årsbok*, II, 1924, pp. 101—3, figs. 1 and 2; C. J. Lamm, *Das Glas von Samarra*, Berlin, 1928, p. 57; *idem, Gläser*, I, p. 156, II, Pl. 58, 11; *idem, ap. H. Seitz, Glaset förr och nu*, Stockholm, 1933, p. 47, Pl. 15, C; H. Arbman, *op. cit.*, p. 73. — Full bibliographies of this type will in the following be given only for Islamic glass found in Sweden.

age, situated on the island of Björkö, in Lake Maelar. The engraved decoration, in most of its elements ultimately derived from Sasanian prototypes, consists of two 'Trees of Life' in the abbreviated shape of a pine-cone flanked by double-volutes; these motifs are separated by birds looking in the same direction. The birds, on which there are traces of a greyish white paste, are rudely represented with lifted wings, without legs. The summary outlines of the heads remind one of the bird on the lusted fragment from Barkarby. The cup from Birka is the only complete glass vessel of Islamic origin that has so far been found in Scandinavia.

CHAPTER II

Lustre-Painting before the Fatimid Period.

The row of birds on a plain background to be seen on the lusted cup from Barkarby and on glasses such as the pinched cup in the Arabic Museum (*Pl. II, 2*) is, like some of the motifs described at the end of the previous Chapter, ultimately of Sasanian derivation. The device is well known from textiles of Late and post-Sasanian type, some of which have been found in Egypt.¹ The same pattern is quite common among the paintings of the 9th century discovered at Samarra²; the birds, in many cases provided with fluttering neckbands, are here placed between single or double rows of beads. E. Herzfeld has demonstrated that the paintings at Samarra are really to be regarded as the last phase in the evolution of Sasanian painting. Of exactly the same type as the birds of Samarra are those encircling a beaded medallion on a little bowl of relief-glazed Egyptian ware (*Pl. II, 1*) found in Egypt and previously belonging to the collection of Dr. D. Fouquet in Cairo.³ The birds are placed on a yellow background; three of them are brown, the four others are green, and they all have crests of a dark brown colour. This bowl is mentioned by A. Lane in an excellent paper devoted to the "*Glazed Relief Ware of the Ninth Century A.D.*", recently published in the *Ars Islamica*.⁴ The complex origin of this ware and of its decoration is significant of the art of this period, in which is witnessed the birth of what has been called the 'Imperial Abbasid style'. In these vessels there is, to quote Mr. Lane, "a remarkable blend of influences from China and

¹ C. J. Lamm, *Cotton in Mediaeval Textiles of the Near East*, Paris, 1937, p. 92, fig. 57.

² E. Herzfeld, *Die Malereien von Samarra*, Berlin, 1927, p. 59, Pls. 48 and 49.

³ *Collection du Dr Fouquet, du Caire, Première Vente*, Galerie Georges Petit, Paris, June 12th—14th, 1922 (expert A. Sambon), No. 261, pp. IX and 42, Pl. 12.

⁴ VI, pp. 56—65. See in particular p. 59.

Persia with the Hellenistic tradition that survived most strongly perhaps in Egypt; the technique of some examples is important in that it marks a critical phase in the development of luster color."

Within this glazed relief ware, the earliest specimens of which I am inclined to date to the second half of the 8th century, Lane distinguishes two groups, one produced in Egypt, the other probably in Iraq. The Egyptian ware is characterized by the common use of combined glazes, adopted "on the suggestion of the imported Chinese stoneware"; lustre is completely lacking. The few lustred specimens of the relief-glazed ware found in Egypt were according to Lane presumably imported from Iraq. This Iraqi ware has monochrome glazes in green or yellow-ochre, or in a nacreous yellow-ochre with a lustrous sheen, laid directly over the clay. It is obvious that there must be a close connection between the Egyptian and the Iraqi products. Mr. Lane thinks that the technique was introduced into the more Eastern centre of manufacture by Egyptian craftsmen working under the Caliph's immediate patronage, thus getting the opportunity not only of copying the costly and highly appreciated stoneware imported from China, but also of drawing inspiration from vessels of precious metals wrought into shapes reflecting the splendid products of the Sasanian age.⁵ Lane refers to the passage in a work by al-Ya'qubi, who was active in 881, according to which potters from Basra and Kufa were summoned by al-Mu'tasim to Samarra after the founding of this metropolis in 836. Glass-blowers were on the same occasion brought from Basra, which latter place, however, was to remain during the Abbasid period, together with Baghdad and Qadisiya-on-the-Tigris, a centre of glass-making in Iraq.⁶

⁵ See also F. Sarre, *Die Keramik von Samarra*, Berlin, 1925, pp. 32—6, figs. 83—5, Pls. 10—2 and C.

⁶ From Egypt were on the same occasion brought "those who made paper and other articles". See C. J. Lamm, *Gläser*, I, p. 497, with quotation from *Bibliotheca geographorum arabicorum*, ed. M. J. de Goeje, VII, Leyden, 1892, p. 264; on p. 250, al-Ya'qubi refers to Baghdad as a place where works of art of all sorts are made by the most capable craftsmen, gathering there from all parts. — Abu-l-'Atahiya (748—c. 828), whose religious poetry was highly appreciated by Harun al-Rashid, was a potter by profession who, being the scion of the Bedouin tribe of 'Anaza, passed his youth in Kufa and then settled at Baghdad. — Concerning Egyptian weavers in linen establishing their art in Iraq during the reign of al-Mu'tasim (833—842), cf. C. J. Lamm, *Cotton*, p. 81, note 44.

Concerning glass and rock crystal, cf. *idem*, *Gläser*, I, p. 497; new information

P. Kahle⁷ quotes a passage from Nasir al-Din al-Tusi's (d. 1256) *Tansuq-nama*, where 'Pharaonic glass' (*abjina-i fir'auni*) is said to be synonymous with 'glass from Baghdad'; it was formerly manufactured on a large scale, but it was not produced in the author's day. This perfectly excuted glass (*muhkam*) was extremely transparent and pure ('crystal glass').⁸ The beautiful things — bottles, receptacles for paint for dyeing the eye-lashes, stands and other articles — made of this glass were cut with (i. e., on a wheel of) onyx and decorated with ornamental devices and figural representations. A very large and thick glass cup of this ware, preserved in the treasure of the last Umayyad Caliph of Damascus, Marwan II (744—750), bore in the middle a representation of Sasanian type with a kneeling man aiming with his bow at a lion.⁹

Al-Maqdisi (al-Muqaddasi), who wrote in 985/6, mentions the *muhkam* of Baghdad among the specialities of Iraq,¹⁰ and Ibn al-Faqih describes about the year 903 the *muhkam*, worked into goblets, skull-shaped bowls (*aqhaf*), chalices and cups, among the wonders of Baghdad, which also included large dishes made of stone¹¹; I consider

has been published by P. Kahle in his papers *Die Schätze der Fatimiden, Zeitschrift der Deutschen Morgenländischen Gesellschaft*, LXXXIX, 1935, pp. 329—62, and *Bergkristall, Glas und Glasflüsse nach dem Steinbuch von el-Bērūnī, ibid.*, XC, 1936, pp. 322—56.

Several problems treated in the following have been discussed by the present writer in his work *Benaki Museum, Athens. Catalogue of Glass, Chiefly Acquired in Egypt*. As this catalogue, completed in 1938, has not yet been printed, I regret being compelled to draw on it largely in this connection. This catalogue contains a great number of glass fragments pertaining to the types to be discussed in the following. I am particularly grateful to Mr. Benaki for the permission to publish here single specimens of paramount importance to the study of Islamic glass found in Sweden.

⁷ *Loc. cit.*, LXXXIX, note 2 on pp. 341 f.

⁸ According to al-Ghuzuli (d. 1412) it had a yellowish tinge (C. J. Lamm, *Gläser*, I, p. 513). — Colourless glass containing lead was a Jewish speciality. Heracilius ('Pseudo-Heraclius', probably 12th century) speaks about "plumbeum vitrum, Judæum scilicet" (*ibid.*, I, p. 508). From the ancient centres of glass-making along the Syrian coast the method of making this glass, well apted for cutting, was spread in various directions through itinerant Jewish glass-makers.

⁹ *Ibid.*, I, p. 498, equally from al-Ghuzuli. In the history of Sindbad the same cup is described as a gift from Harun al-Rashid to the King of Ceylon.

¹⁰ *Bibliotheca geographorum arabicorum*, III, Leyden, 1877, p. 128.

¹¹ *Ibid.*, V, 1885, p. 252.

it probable that some of the latter were of rock crystal. In his *Hikayat Abi-l-Qasim al-Tamami al-Baghdadi*, probably written in the first half of the 11th century, al-Azdi¹² makes his fictive 'hero' speak about "perfect glass, everything between cut crystal (*billaur makehrut*), plain cut (or faceted) glass of good quality (*muhkam majrud*), and green paste (*mina*, also enamel) and *qutuli* vessels with gilt ornament (*qutuli mujra bi-l-dhahab*)".

According to al-Biruni (d. 1048), rock crystal brought from the Zanj Islands, near East Africa, and the Dibajat Islands, West of India, was worked at Basra; the organisation of the manufacture is described with some detail.¹³ This tends to show that the glass-workers who, as was just mentioned, were brought to Samarra from Basra had experience in glass-cutting, as it is reasonable to suppose that the glyptic arts flourished at Basra not only during the 11th century. It may be mentioned in this connection that P. Kahle considers a great many of the rock crystal work hitherto regarded as Fatimid to be of Basra make; this is quite probable for single specimens, but the majority is certainly of Egyptian manufacture, as one might perhaps gather from a statement made by Nasir-i Khusrau, who visited Egypt twice between the years 1046 and 1050, concerning the work in rock crystal sold in a bazaar near the Mosque of 'Amr at Fustat.¹⁴

The glazed relief ware of non-Egyptian origin may equally have been made at Basra.¹⁵ As a matter of fact, three specimens belonging to the Egyptian subdivision bear inscriptions containing the signature of a certain Abu Nasr with the appellative (*nisba*) al-Basri, or al-Nasri. "If *al-Nasri* is the appellative, it might connect the person to whom it refers with (a) the tribe of Nasr, (b) a district in Baghdad, or (c) an ancestor called Nasr. *Al-Basri* would of course connect him with Basra."¹⁶ On one of these specimens, a condiment dish of unrecorded

¹² Ed. A. Mez, Heidelberg, 1902, p. 45.

¹³ *Loc. cit.*, XC, pp. 332 and 342.

¹⁴ C. J. Lamm, *Gläser*, I, p. 511.

¹⁵ Lane also mentions Kufa as the possible place of origin. In favour of such an hypothesis he might have mentioned the fragments of *unglazed* relief pottery of the 8th and early 9th century found at the neighbouring Hira (T. Rice, *Ars Islamica*, I, 1934, pp. 65 f., fig. 18). A. U. Pope attributes the same glazed ware to Northern Syria (*A Survey of Persian Art*, II, Oxford, 1939, pp. 1471-3).

¹⁶ Rh. Guest, *ap. A. Lane, op. cit.*, pp. 64 f. — Florence E. Day regards the reading "al-Basri" as the more probable (*Ars Islamica*, VI, 1939, pp. 195 f.).

provenance in the British Museum, the inscription further states that the object was made in Misr, i. e., Old Cairo or Egypt. Whether one should accept the reading "al-Basri" or not, it is quite clear that the interrelations between the makers of the glazed relief ware of both types, the Egyptian and the supposed Iraqi, are quite complicated. A ware created as a result of influences from Hellenistic, Sasanian and Chinese art, marked by technical traditions of Roman Egypt, is thus brought by emigrant potters to an eastern centre, perhaps Basra. The Chinese influence is here strengthened in so far as Chinese prototypes are deliberately copied, but of greater importance still is the rôle played by metal-work of Sasanian type, the radiance of which is imitated by painting in allover lustre. The gold vessels condemned by the Prophet are thus replaced by a material which, without having the same intrinsic value, could give something of its glamour to the banquets of an over-refined society without hurting the feelings even of the most orthodox. Specimens of this eastern ware are imported to Egypt and, if the reading al-Basri be accepted, a potter leaves his Iraqi kiln to establish himself at a site that one of his ancestors may have left in order to find work under the patronage of the rising Abbasid dynasty. What has been demonstrated in the case of glass shows that matters are here just as complicated; Islamic products of Iraq and Persia may not always be distinguishable (as in the case of the cup from Birka, *Pl. III*), and also between Egypt and Iraq there are lines of connection going both ways, depending upon transient political constellations and their economic consequences.

As was already stated, lustre does not occur — if one is to believe A. Lane — on the glazed relief ware produced in Egypt, nor has it yet been proved, whatever has been said to the contrary, to have been deliberately applied to any other kind of Egyptian pottery produced, in pre-Tulunid time (before 868). On account of this, some authorities have argued that the discovery of lustre — one of the most distinct features of Islamic pottery, unknown to the Far East — was made in Iraq or, as still others will have it, in Persia. The controversy about the origin of lustre is, together with that concerning the date of Mshatta, one of the foremost features in the young history of research in Islamic art. A bibliography of this topic would fill several sheets.¹⁷

¹⁷ G. Ballardini, *Note sull'origine della ceramica orientale a lustro e a riflesso metallico*, *Nuova Antologia*, Aug. 1st, 1928.

The problem has recently been well summed up by A. U. Pope who, referring to 'wasters' that he does not find worth while reproduction, adheres to the Persian theory,¹⁸ and by A. Lane, from whose very lucid exposition I take the liberty of making the following quotation¹⁹:

"It was felt by some authorities that the ceramic achievements shown by the Samarra finds could not have been worked out during the short time of the city's occupation; either the pottery was brought from another country where there existed a longer technical and artistic tradition, or else, if made on the spot, the workmen must have been immigrants from such a country who had learned their craft at home. The arguments naturally centre round the white-glazed wares painted with metallic lustre-decoration, which remained for centuries the highest form of expression in Near Eastern pottery. Drs. A. J. Butler, F. R. Martin, and H. Gallois maintained that this technique was discovered and first practised by the Egyptians; MM. Charles Vignier, Raymond Koechlin, and M. Pézard supported the claim of Persia. Their arguments are partly conjectural and partly capable of refutation; present evidence goes to show that the Copts in Egypt and the Sasanians in Persia made only inferior pottery, and that the renaissance of the art did not begin till well on in the Islamic period. By far the most convincing theory is that of E. Kühnel, who maintains that the technique of lustre-painting on a white ground was developed in Mesopotamia during the ninth century to meet the demand for luxury wares created by the importation of fine pottery from China." — A. Lane ends his account of the "*Glazed Relief Ware*" by stating²⁰ that "there is at present no convincing evidence to show that lustre was used on pottery in Egypt before the Fatimid period. It may be otherwise for glass; however, conjectures and polemics on a vexed subject are outside the scope of this article, an imperfect attempt at the nonpartisan treatment for which Sarre pleaded when dealing with the same material."

The present writer does not pretend to say the last word on a question towards the solution of which so many authorities have done their share; but while taking the risk (to quote W. King)²¹ "to join the fray with the ferocious and vituperative fury of some of his

¹⁸ *Op. cit.*, II, pp. 1487—98.

¹⁹ *Archaeologia*, LXXXVII, 1938, pp. 28 f.

²⁰ *Loc. cit.*, p. 64.

²¹ *Transactions of the Oriental Ceramic Society*, London, 1931, p. 15.

predecessors", he regrets the necessity of defending a theory which ought to-day to be regarded as a truism: *lustre was invented by Egyptian glass-makers*, probably as early as the 4th century. The material by which this statement is supported almost exclusively consists of fragments: this is no reason why it should be ignored by those who pretend to be more than amateurs. A. J. Butler²² and F. R. Martin, to whom the merit belongs of having first drawn attention to this type of glass, unfortunately linked it together with series of lustred pottery whose origin and date they exposed in a way that can not be accepted. Martin also, in two pamphlets devoted to the subject, reversed the chronology by describing as pre-Islamic fragments of lustred pottery belonging to the Late Fatimid and the Aiyubid periods.²³ Dr. Martin's pamphlets are presented as the result of thirty years study; during the twelve years that have at the present moment passed since I published my work *Glass from Samarra* (Berlin, 1928), there has been an accumulation of material in support of the theory of lustre having first been produced in Egyptian glasshouses. Unfortunately I have during all this time made vain efforts to come into contact with a technologist who could make a scientific examination of this glass. It is certainly quite a difficult matter; but as this glassware, had the more luxurious types been preserved in complete specimens, would be recognized as belonging to the greatest achievements of glass-making of all ages, the time spent on such a task would not be wasted, and it might give an impetus to modern glass industry; in the 'Ariel' and 'Graal' glasses produced at Orrefors, in Sweden, quite different procedures, partly secret, have led to effects that remind one of some of the Egyptian glass here referred to.

Enamelled glass had been made in Egypt, as well as in Syria, during the Roman period, and the Egyptians had since times immemorial been great masters in the colouring of glass. The mosaic and *millefiori* glass of Alexandria had, before the enamelled glass attained its fame, been one of the staple products of Egypt. In these glasshouses methods of manufacture were undoubtedly, just as at Orrefors, kept secret; improvements or discoveries were the results not of deliberate scientific

²² *Islamic Pottery*, London, 1926.

²³ *Burlington Magazine*, XVII, 1910, pp. 46—51; *Il Lustro sul vetro e la ceramica in Egitto da Adriano a Saladino*, Faenza, 1929; *Lustre on Glass and Pottery*, Munich, 1928.

investigation, but of experiences made, often by pure accident, during processes repeated for years. The view expressed by some technologists whom I have consulted confirms my opinion that the earliest type of lustre falls in line with the highly fused-in enamelling that was practised by Egyptian glass-makers in the Late Roman and Coptic periods. This enamelling, which can not be perceived by touch, is sometimes applied upon both sides of the glass and treated in such a way that the coloristic effect of its outer surface is entirely different from that of its inner surface, as seen through the greenish glass. These differences also apply to the shadings within one and the same colour, so that, e. g., shades of yellow ochre and red on the outer surface may correspond to shades of indigo and purple on the inner one (*Pl. VI, 1*).²⁴ The statement that there is no clear difference here between enamelling and painting in lustre, or colours resembling lustre, may sound queer to some scholars; nevertheless, I am not ashamed to say that in many cases I am very much in doubt as to which of these designations should be used. To those who might object that none of these colours is real lustre, I must answer in a most positive way that, if the colours used in the polychrome 'Samarra ware' (made at Baghdad) is real lustre, then the same designation must be used for those applied to some of this glass. Technical matters will here be treated only cursorily; it might suffice to mention that, to use the definition formulated by R. L. Hobson with regard to pottery,²⁵ "lustre is formed by painting on the glazed surface a pigment formed of metallic salts (copper, silver, and perhaps other metals were used) which, when fired at a low temperature in a special kind of kiln, deposit a thin film of metal on the glaze. If the film is thin enough to allow the light to penetrate it, the lustre glows with rainbow reflections."

²⁴ For details concerning many of the fragments discussed in the following, and for suggested datings (generally based on interior evidence only), I refer to the texts on the plates and to C. J. Lamm, *Gläser* (with further references). For such fragments reproduced in the present pamphlet the corresponding *Tafel* in *Gläser* is here given within brackets: *Pl. IV, 1* (*Taf. 38, 2*); *Pl. IV, 3* (*Taf. 39, 8*); *Pl. IV, 4* (*Taf. 39, 13*); *Pl. V, 1* (*Taf. 35, 13*); *Pl. V, 3* (*Taf. 41, 24*); *Pl. V, 7* (*Taf. 35, 4, Farben-taf. A, 6*); *Pls. VI, 1, and VII, 1* (*Taf. 46, 10*); *Pls. VI, 3, and VII, 3* (*Taf. 41, 29*); *Pls. VI, 6, and VII, 6* (*Taf. 35, 1*); *Pl. VIII, 1-4* (*Taf. 34, 15, and 38, 8, 9, 11 and 12*); *Pl. X, 1* (*Taf. 43, 5*).

²⁵ R. L. Hobson, *British Museum. A Guide to the Islamic Pottery of the Near East*, London, 1932, p. 3, note 2.

In the polychrome glassware here referred to the colours have more often than not a metallic shine resembling that of steel, but there are also instances when the lustre has its most typical appearance (*Pl. V, 4 and 7*), and this is always the case with the purple glass containing manganese, dating chiefly from the Fatimid period (*Pls. V, 6, and XVIII, 1*). It is most likely that the original brilliancy was not preserved to the same extent on uncoloured or greenish glass on account of its chemical composition; or the procedure of obtaining the effect of lustre was not always successful, when such metal was used. Whatever may be the main reason for the *relative* scarcity of such glass bearing lustred ornament that is still chatoyant, there is every type of transition between this glass and glass with dull paint such as that on the fragments from Barkarby, and no sharp division can thus be made between these categories. The term 'pseudo-lustre' that has been used about the dull variety of colour (as in my work '*Gläser*') refers to the present appearance of the glass only and may thus cause some confusion. Also in the case of pottery lustre has often lost its original brilliancy.

It may be said that glass of these types with both-sided painting is on the whole older than that with painting on one side only. The decoration of one side here resembles a foliation reflecting that of the other. In most cases the patterns are painted in all their extension on the inside of the vessels, whereas there is a linear treatment of the design on the outside. The shape of the vessel would sometimes make painting on both sides impossible or a matter of great difficulty. The fact that one of the lustred fragments from Barkarby, belonging to a vase, is painted on one side only, may be explained in this way and must not lead one to assign this fragment to a date later than that of the fragments with birds painted on both sides.

Representations of birds are often met with in lustred glass of both classes, that with decorations painted on both sides (*Pls. IV, 1, with a violet tinge, and 2, VI, 4—6, VII, 4—6, and VIII, 3*), as well as that with patterns painted on one side only (*Pls. IV, 3—5, and V, 3, with enamelling and inlaid threads, and 5*). The scribble placed near the rim of one of the lustred fragments of Barkarby may be compared with the decoration on a fragment found at Fustat (*Pl. V, 1*), where, however, the connection with Cufic writing is obvious. This fragment, with brownish lustre of mat appearance, painted on the outside only, must be assigned to a date later than that of the lustred fragment from

Barkarby which, on stylistic evidence, may be dated to the 9th or the early 10th century, or to venture a more exact dating, to about the year 900. In the series of birds represented on the plates they occupy a place between two fragments probably found at Fustat, one in the Benaki Museum, Athens (*Pl. IV, 2*), the other (*Pl. V, 5*) presented by the author to the National Museum, Stockholm. The same gift included what among early lustred and enamelled glass (*Pls. V, 2, 4 and 6, and VI [and VII], 4, 5 and 7*) is perhaps the most splendid example of the entire class I have ever seen (*Pls. VI, 2, and VII, 2*). This fragment, to which only a coloured reproduction could do full justice, was presented to me by the well-known antiquarian Mr. M. Nahman in Cairo, and had probably been picked up at Fustat. It belongs to the inner part of a bowl of greenish glass. The outside is painted in silver lustre (the same colour combined with shades of brown is found also in the fragment reproduced on *Pls. VI, 3, and VII, 3*). The silver shades into green at places, and has altogether a greyish green tinge when seen from the inside of the vessel. This side is painted in shades of whitish yellow, yellow-ochre and orange. These colours, when seen from the other side in transparent light, appear as reddish brown and dark brown. When seen in incident light only, the silvery ornament on the outside appears as if standing on a homogeneous dark brown background. The pattern consists of a rich rosette placed against scrolls and foliage. The fragment may tentatively be dated to the 7th century or thereabouts.

During this century Egypt, after having been for a short time (619—629) occupied by the armies of Khusrau II, was definitely cut off from the Byzantine Empire. In 640 'Amr b. al-'As, general of the Caliph 'Umar, conquered Pelusium and defeated the Byzantines at Heliopolis. In 641 Alexandria was taken and the fortified city of Babylon, opposite Memphis, was handed over through the intervention of the Patriarch Cyrus. In the following year the Roman camp north of the fortress was chosen as seat of the new government; its name Fossatum ('surrounded by trenches') is preserved in the Arabic name Fustat (al-Fustat), which, including Babylon, was, like Egypt itself, also called Misr (in dialect Masr). The name Misr 'Atiqa, or Old Cairo, was given to the place only long after the present Cairo (al-Qahira, 'the Victorious') had been founded north of Fustat by Jauhar, the general of the Fatimid Caliph al-Mu'izz, in 969.

The fragment just described may thus have been made within the century that marks the beginning of the Islamic era in Egypt. The inhabitants of that country only reluctantly adopted the new religion, and among some classes of artisans (as the weavers), the Copts (to-day about 5 p. c. of the total population) were probably in majority far into the Fatimid period. The Arabs did not bring along with them a new art, and a marked tendency towards what may be called an Islamic art style only gradually made itself felt in Egypt. From this follows that it would be vain effort to try to make a sharp distinction between Islamic and pre-Islamic art produced in Egypt in fields other than religious architecture. This also applies to lustred glass, and the question to be answered is not whether this or that piece of glass is of Islamic or pre-Islamic date, but whether it was made subsequent to, or before the foundation of Samarra (836—838) and the production of that lustred pottery of Baghdad known as 'Samarra ware'. The establishment of the Tulunid dynasty in 868 may also be taken as a marking-point for similar distinctions.

Referring to the present writer, R. L. Hobson²⁶ admits that while no serious evidence has so far been produced of the appearance of lustre on pre-Islamic pottery, "there are one or two fragments of lustred glass found in Egypt and Syria for which an earlier date has been claimed chiefly on stylistic grounds". It must be admitted that the number of glass fragments of this category for which a *pre-Islamic* origin can be safely indicated is not very great, although the number given by Mr. Hobson must be taken merely as a rhetorical expression.

This kind of glass is *not* represented among the great number of complete glass vessels and fragments dating from about 200—450 found at Karanis (Kaum Washim), in the Faiyum District.²⁷ This is perhaps significant, but the absence of this type at Karanis might be explained by it having been too precious to be used at such an out-of-way place. The high esteem in which this glass was held, when being a *nouveauté*, is illustrated by a passage in a letter which is said to have been written to a person in Rome by Hadrian during his visit to Alexandria in the year 130. After having mentioned glassworks and other factories in his Egyptian capital, he continues: "I am sending you three *calices allassontes versicolores*, which the priest of the temple presented to me

²⁶ *Ibid.*, p. XV.

²⁷ D. B. Harden, *Roman Glass from Karanis*, Ann Arbor, 1936.

as a special gift for you and your sister, and I should like you to have them on your table at special entertainments (*festia conviviiis*): but mind that young Africanus does not handle them carelessly." A. J. Butler explains the word *versicolores*, colour-changing, as a gloss on the Greek term ἀλλάσσοντες and justly contends that these chalices were lustred.²⁸ Contrary to this authority I am of opinion that all were of glass, not of pottery; this view is also held by Mary L. Trowbridge who, however, says nothing about lustre.²⁹ On account of certain anachronisms this letter is generally held to be a forgery of the 4th century, and Butler, who shares this view, is right in stating that what is said about these chalices must apply to the period of the forgery and not to that of Hadrian, though the word 'temple' ought to be replaced by 'church' (or 'monastery'). It is interesting to note in this connection that, as will be seen in the following, fragments of lustred glass have been excavated in a Coptic monastery.

A fragment with two-sided lustre painting of brownish tinge was found by A. Gayet during the season 1902—03 at Antinoë (*Pl. VIII, 5*). The label in the Musée Guimet, Paris, gives the information "Tombe de Sabine, fragment de verre (chrétien)". Is this fragment perhaps identical with the glass vase referred to in the following passage quoted from one of the works which Gayet has devoted to his excavations at Antinoë³⁰: "La dame Sabina avait avec elle une pierre gnostique, un poisson d'ivoire, un vase de verre avec la croix et la lettre *a* et *ω*. Très richement vêtue d'une robe rose, d'un manteau rouge, portant un collier de perles et d'améthystes, elle était enveloppée d'un immense châle de pourpre ..." This shawl, decorated in tapestry with Nilotic and mythological scenes including the representations of Apollo and Daphne, has been dated to the 4th or 5th century.³¹ Unfortunately Gayet was more of an explorer than archaeologist, and the data he gives can thus not always be trusted. The fragment here reproduced has, as a matter of fact, a cross surrounded by what resembles Greek

²⁸ *Op. cit.*, pp. 58 f. and 72.

²⁹ *Philological Studies in Ancient Glass, University of Illinois Studies in Language and Literature*, XII, 1928, pp. 109, 129, 165 f. and 172. — A. Kisa has another view on the subject (*Das Glas im Altertume*, Leipzig, 1908, II, p. 560).

³⁰ *Fantômes d'Antinoë*, Paris, 1904, p. 17.

³¹ *Exposition des tapis et tapisseries d'Orient, Musée des Gobelins, Paris, 1934*, No. 68, p. 30, Pl. [2].

letters including the χ twice repeated, but the letters mentioned by Gayet (if this fragment belongs to the glass he describes) are not to be seen on the fragment exhibited in the Musée Guimet. The rest of its decoration consists of motifs the interpretation of which is uncertain.

Four fragments of this class were found by J. E. Quibell in the monastery of Apa Jeremias at Saqqara (*Pl. VIII, 1—4*).³² For a detailed description of these fragments I refer to my work *Gläser* (I, pp. 110 and 117). One of them (*Pl. VIII, 4*) is of extremely thin glass with brown ornament of unknown description painted on the outside. Of the three others, painted on both sides, one shows a cross held in the uplifted right hand of a Saint ("ΑΓΙΟC"); the second fragment, probably not of the same vessel, shows a haloed head, and the third a bird or griffin with raised wings. The last-mentioned fragment already approaches Islamic style; those with human representations are purely Coptic and probably pre-Islamic. The monastery in which these fragments were found is said to have flourished between 450 and 850; most of the buildings date from about 500.

Some very early examples were among the lusted and related glass exhibited by the late F. R. Martin in the Gemeente Museum at The Hague in 1930. Their present whereabouts is unknown to the author. Those shown on *Pl. X, 2—9*, reproduced from one of Martin's pamphlets,³³ have also been described in my work *Gläser* (I, p. 111), where some of them are compared with paintings at Bawit dating from the 5th—7th centuries. The floral pattern of the fragment *Pl. X, 4*, shows affinities with Sasanian art; it recalls the four palmette trees with split crowns that form the main decoration of a cup in two-sided lustre painting (*Pl. IX, 2*), acquired in 1932 by the Victoria and Albert Museum together with a second specimen of the same shape and technique (*Pl. IX, 1*). Both glasses have a rosette in the bottom and must have been produced by the same painter. They were shown to me at Cairo by Mr. M. Nahman, in 1928,³⁴ and were a few years

³² *Excavations at Saqqara, IV*, Cairo and Leipzig, 1912, pp. 43 and 141, *Pl. 54, 4*. — A. J. Butler (*op. cit.*, p. 72) contends that the way in which the Greek or Coptic lettering is disposed vertically at one side "proves conclusively a date prior to the Arab conquest, and which may be stated confidently as fifth or sixth century".

³³ *Il Lustro*, p. 17, *Pl. 1*; cf. *Pl. 2*, the fragment of a cup of turquoise blue glass, recovered at Damascus, painted on the inside in greenish lustre. The dating to the 5th century suggested by Martin may perhaps be accepted.

³⁴ C. J. Lamm, *Gläser*, pp. 111 f.

later published by L. Ashton in *The Burlington Magazine* (LX, June, 1932, pp. 293 f. with plate). Ashton compares the vine growing out of a pot that forms the main motif of the second cup, to a similar decoration embroidered on a Coptic hanging preserved in the same museum. He describes their technique as lustre-painting, and gives their origin as Coptic, 6th century. Two fragments of a magnificent greenish glass bowl of closely related type were presented by Mr. Ashton to the Victoria and Albert Museum in 1934; the author is indebted to Mr. Ashton for the kind permission to reproduce the largest fragment (*Pl. VIII, 6*). These fragments, datable to the 6th—7th century, already show the intermingling of Hellenistic and Sasanian motifs that was to become so characteristic of Umayyad art; one is particularly reminded of the 8th century façade of Mshatta, to the embellishment of which Coptic artisans have made an important contribution.

Arriving again at our starting-point, the Abbasid period, we come across glass with highly fused-in enamelling, such as the fragment of a shallow bowl in the Arabic Museum, Cairo (*Pl. X, 1*). This vessel is made of blue metal, but the glass is so thick that the two-sided decoration with its predominating orange yellow colour, does not, by the transparency of the glass, create such effects as those described in connection with some other fragments. The palmette surrounded by a beaded frame to be seen on the fragment in Cairo, recalls decorations in Cufic Qurans of the 9th century. Of the same type is a little fragment with one-sided painting reproduced on *Pl. V, 2*. This kind of glass is particularly well represented in the Benaki Museum with fragments supposed to have been found at Fustat. In addition to the yellow colours, glass of this type generally has details in bluish green, and sometimes in silvery lustre. This combination of colours is thus the same as that found on a fragment in Stockholm already described (*Pls. VI, 2, and VII, 2*).

There is a marked affinity between Egyptian glass of the type here referred to and some fragments of greenish glass found at Samarra, in one of the palaces of the Caliph, the Jausaq (*Pl. XI, 2 and 3*).³⁵ The outside of the shallow dishes to which these fragments belong is entirely covered by orange yellow enamelling. On the inside, bands

³⁵ *Idem*, *Das Glas von Samarra*, Nos. 271—5, pp. 97 f. (cf. 93—6), *Pls. 7 and 8*, the latter in colours.

of the same colour with outlines and markings standing out in black, delimit fields which contain imbricated designs and irregular scrolls worked in a bluish green colour shading into violet and having a marked metallic sheen.³⁶ The same type of scrolls delimited by bands are one of the *jeux de fond* characteristic of the lustred 'Samarra ware' (Pl. XI, 1), others being bands with transversal markings, imbrications, chessboard patterns filled with dots, herring-bone designs, and round, or sometimes lanceolated 'eyes' placed on dotted grounds.³⁷ Some of these devices have been likened to *opus spicatum* and *reticulatum*,³⁸ while the 'eyes' have been compared to the peacock-eye design.³⁹ As a matter of fact this device is not rare in the art of the Umayyad period and of the preceding centuries; as an example I have reproduced on Pl. XIV, 19, a detail from the re-discovered mosaics produced during the reign of al-Walid I (705—715) in the Great Mosque of Damascus, mosaics which were regarded by the Moslems as one of the Wonders of the World.⁴⁰ It should be observed that in the peacock's 'eye' the central dot is placed excentrically and not in the middle. I recognize this device developed into a particularly splendid pattern in a well-known pottery dish of the slip-painted ware (Pl. XIII, 1)⁴¹ produced at Old Samarra (Afrasiyab) during the Samanid period (874—999), well-known in Swedish archaeology due to the great number of Samanid coins that have been found in Sweden. On this dish the 'eyes' are placed on a dotted ground just as in the lustred 'Samarra ware', imported specimens of which were copied at Samarra in slip-painting covered by transparent glazes.⁴²

I have cited these instances although I am convinced that the *main* source of inspiration of the 'eye' motif on the lustred 'Samarra ware',

³⁶ G. Marçais, *Les faïences à reflets métalliques de la Grande Mosquée de Kairouan*, Paris, 1928, pp. 19 f., fig. 3. The tiles were made just before 862 (cf. Chapter III).

³⁷ Before these fragments had been discussed by other scholars, this colour was recognized as a kind of lustre by E. Kühnel (*Islamische Klein Kunst*, Berlin, 1925, p. 180).

³⁸ H. C. Gallois, *Aréthuse*, Oct., 1928, pp. 11 f.

³⁹ F. Sarre, *Die Keramik von Samarra*, Berlin, 1925, p. 38.

⁴⁰ E. de Lorey, *Ars Islamica*, I, 1934, p. 42, fig. 21.

⁴¹ A. U. Pope, in *A Survey of Persian Art*, Oxford, 1938—39, II, p. 1480, and V, Pl. 561, B.

⁴² K. Erdmann, *Faenza*, XXV, 1937, pp. 134 f., Pl. 28, a and b.

as well as of some of its other filling-in patterns, are *millefiori* (or rather mosaic) glass plaques of the type discovered at Samarra, in the Jausaq (*Pl. XII*, 2).⁴³ This palace, also known as Bait al-khaqani, belongs to the period of the foundation of Samarra under al-Mu'tasim, and the plaques may be supposed to have formed part of the original wall decoration. In my monography on the glass from Samarra I have discussed the question as to whether these plaques, still unparalleled among Abbasid finds, should be regarded as produced during the Early Islamic period or as spoils of Alexandrian make brought from some Roman site such as Antioch or Damascus. Weighing the pros and cons, I there left the question open, with a bias in favour of a dating within the Roman period. A great number of beads found at well-controlled excavations in Scandinavia among objects of the Vendel and Viking ages must, however, be regarded as a strong argument in favour of the other hypothesis. As such beads, some of which are closely similar to the Samarra plaques, will be studied in detail by Dr. H. Arbman, it will suffice to reproduce here, without further comment, a number of beads found at Birka (*Pl. XIV*, 1—18); the same beads will be shown in colour in a forthcoming volume of Dr. Arbman's great work on the finds from Birka. It may be noticed that just those filling motifs of the lustred pottery that can *not* be connected with *millefiori* glass — viz., the scrolls and the imbrications — are found in the glass of lustre type discovered at Samarra.

Those vessels and tiles in which the similarity of the filling motifs to *millefiori* glass is particularly striking, all belong to the polychrome series. Notwithstanding the differences in the range of colours employed, there is thus a parallel also in the coloristic effect that has been attained through both mediums. The connection is perhaps not so striking in such an object as the fragmentary bucket-shaped cup from Samarra shown on *Pl. XIII*, 2,⁴⁴ but it is quite obvious in a dish found at Fustat, preserved in the Arabic Museum at Cairo and showing a chequer design of dark bands demarking squares filled with the 'eye' pattern (*Pl. XII*, 1).⁴⁵ The way in which an all-over decoration

⁴³ C. J. Lamm, *Das Glas von Samarra*, Nos. 304—12, pp. 106 f. and 109 f., Pl. 8 (in colour) and 9.

⁴⁴ F. Sarre, *op. cit.*, No. 155, p. 40, Pl. 16.

⁴⁵ *Musée de l'Art arabe du Caire. La céramique égyptienne de l'époque musulmane*, Basle, 1922, Pl. 2; A. J. Butler, *op. cit.*, p. 150, Pl. 33, B; Zaki Muhammad

of this type has been placed on a round surface, already shows that the design must have been taken over from an art object of an entirely different kind. (Only the absence of 'eyes' in the dark bands of the dish speaks against the *millefiori* plaques being those prototypes, but this difference is by no means decisive.) In a similar manner the sprinkled or veined grounds of polychrome lustred tiles found at Samarra are made in imitation of panes of marble and other kinds of stone.

The dish from Fustat and the bucket-shaped vase from Samarra are both related to the lustred tiles in the Great Mosque at Qairawan published by G. Marçais. They must thus be regarded as produced in Baghdad about the year 860, and in the chronology of the Iraqi lustred pottery so well worked out by E. Kühnel in an article published in *Ars Islamica* (I, 1934, pp. 149—59) they fall within the second group, the first group — distinguished by floral motifs broadly drawn in lustre colours with a predominance of ruby red — being by the same authority dated to the period falling between the foundation of Samarra and about 850. The same ruby colour, which is intermixed with other shades including orange, is almost totally absent in the later groups of this Iraqi ware; it occurs, although quite sparsely, in Fatimid lustred pottery of the 11th century, and within the enamelled and lustred glass produced in Egypt it is characteristic of an entire group, belonging chiefly to the Fatimid period (*Pls. VI, 7, and VII, 7*), but having prototypes dating from Abbasid time.

All this tends to show that the first lustre-painting on pottery (as distinct from the allover lustre of the relief ware) was executed in Iraq by artisans who owed their craft to immigrant Egyptian glass painters, or who were themselves Egyptians. In Iraq they found at their disposal a white glaze — often (but not always) containing tin — that had been in use in this country for centuries.⁴⁶ The same glaze is known from Iraq as a base for painting in blue glaze, sometimes

Hasan, *Al-fann al-islami fi Misr*, I, Cairo, 1935, p. 107, Pl. 24. — A. Sambon says about a faience bowl of this type, with wheel-like 'eyes' on a mottled ground: "Cette pièce imite les mosaïques en verroterie polychrome." This bowl, found at Ashmunain (Hermopolis), belonged to the D. Fouquet Collection (*loc. cit.*, No. 308, p. 50, Pl. 15). — Cf. also F. R. Martin, *Il Lustro*, p. 28.

⁴⁶ N. C. Debevoise, *Parthian Pottery from Seleucia on the Tigris*, Ann Arbor, 1934, p. 34. The white-glazed ware from Hira, sometimes decorated in blue and green, belongs to the Umayyad period (D. T. Rice, *Ars Islamica*, I, 1934, pp. 69 f.).

with additional touches of green. That both wares were produced in the same factories is proved beyond doubt by specimens in which lustre is used in connection with painting in coloured glazes. Two 9th century bowls of this kind belonging to the Victoria and Albert Museum bear inscriptions in blue combined with lustre-painting which is in one case of ruby colour and in the other of a yellow shade.⁴⁷

E. Kühnel suggests that lustred pottery was produced chiefly with the aim of replacing the imported Chinese stoneware. He is inclined to see in the fact that numerous fragments of such ware have been found at Samarra, an indication of lustred pottery not having been made at the time when Samarra was founded. — The first part of this argument may be true in so far as there must have been good economy to enable the production of fine pottery within the country, but the ware that in a more specific sense was to compete with the Chinese stoneware was not the lustre-painted pottery, but the glazed relief ware and the wares with spotted or running glazes, used alone or in combination with incised ornament. As for the second part of this argument, it is somewhat astonishing that if lustred pottery was *not* made in 838 the technique was developed at Baghdad and not at Samarra. If my theory of the introduction of lustre into Iraq by Egyptian glass-makers is accepted, then there is still greater reason for thinking that the first lustred pottery was made previous to the year 838. Passages in the works of Arabic authors referred to at the beginning of this Chapter contain references to 'Pharaonic' glass and to *qutuli* vessels with gilt ornament made at Baghdad. This 'gilded' glass perhaps also included glass decorated in lustre, for which the mediaeval Arabic texts have no special designation, though there were also made at Baghdad glass vessels with gold inscriptions worked in 'cold' painting; such an inscription is said to have been painted on a goblet by a daughter of the Caliph al-Mahdi (775—785).⁴⁸ In the famous bibliographical work known as the *Fihrist* composed by Ibn Abi Ya'qub al-Nadir, who was active in 987, it is stated that "Abu Ibrahim b. Nusair belongs to those who occupied themselves with the technical arts; he was a connoisseur of glass-pastes (*talwihat*) and glass manufacture". The two works he has written on the subject have unfor-

⁴⁷ A. Lane, *Archaeologia*, LXXXVII, 1938, p. 32.

⁴⁸ C. J. Lamm, *Gläser*, I, p. 496, quoting al-Washsha, d. in Baghdad 936.

tunately been lost. This author might have drawn some of his knowledge from earlier writings, but no doubt he also had some knowledge of practical work, perhaps including the production of *millefiori* (and mosaic) glass.⁴⁹ This glass is particularly connected with Alexandria, but granted the plaques found at Samarra are of Islamic date, I think they were made in Iraq, as fragments of monochrome plaques and shaped inlays made of similar metals have been found at Samarra, for the most part in the Jausaq.⁵⁰ The early date of this structure referred to above speaks in favour of the place of manufacture of both these kinds of glass being Baghdad. It is thus reasonable to suppose that the beginning of Kühnel's first group of lustred pottery falls shortly before 838. It is possible that the first application of allover lustre on the Iraqi relief ware was made about the same time or perhaps somewhat earlier. Much has already been said about the connections of this ware with Egypt; it should be added that the patterns of the earliest Islamic types of the Egyptian categories of this pottery have parallels within Egyptian glass with two-sided lustre-painting.

How will those who do not take into consideration the rôle this glass played in the creation of the 'Samarra' lustre ware explain that the first pottery painted with lustre pigments is perhaps from a technical point of view the most perfect that has ever been produced? Here one can not as in the case of the *allassontes* glass speak about gradations between enamelling and lustre-painting. A recent author, who regards lustre as a Persian invention, tries to escape from this difficulty by remoulding in an arbitrary way the relative chronology (and not only the absolute) established by Kühnel. It has been mentioned that in much of the earliest lustred 'Samarra ware' several colours are combined, and this is done in a way that denotes a full mastership of a technique in which accident plays such a prominent part. This

⁴⁹ *Ibid.*, I, p. 496. — That the technique had not died out in Egypt with the fall of the Roman Empire is proved by the existence of polychrome glass weights of Fatimid date (M. Jungfleisch, *Bulletin de l'Institut d'Égypte*, X, 1927—28, pp. 19—31), and by the numerous inlaid glass bangles of uncertain (perhaps chiefly Aiyubid and Mamluk) date found in Egypt. Many examples will be described in the catalogue of glass in the Benaki Museum; cf. O. Wulff, *Königliche Museen zu Berlin. Altchristliche Bildwerke*, I, Berlin, 1909, Nos. 1175—90, p. 239, Pl. 57.

⁵⁰ C. J. Lamm, *Das Glas von Samarra*, Nos. 313—319 a, pp. 313 f., figs. 33—4, Pl. 9.

combination of colours could only have been achieved by repeated burnings involving high costs particularly through the comparatively great number of objects that must have been destroyed during the procedure. (Only the archaeologist would hold such 'wasters' in higher esteem than the faultless pieces!) The idea of using several colours in the same specimen was in quite another way essential to the glass painted with two-sided lustre on account of the coloristic effects caused by the optical phenomena mentioned before. It is thus logical that the gradual disappearance of many-coloured effects in lustred (and related), really transparent glass coincides with that of two-sided painting. In the lustre ware made at Baghdad one finds how in a similar way polychrome effects gradually disappear, so that lustre of one colour, not unknown in the initial stage, becomes predominating. In typical products of the 10th century polychrome lustre is entirely absent, as is shown by the fragments recovered at Madinat al-Zahra, the famous palace founded by 'Abd al-Rahman III in 937 near Cordova.⁵¹ This ware, whose absence at Samarra confirms the dating to the time after 883, was exported from Baghdad in all directions, a fact which explains that, although no lustred pottery has been discovered at Baghdad itself, there is a most striking similarity between specimens unearthed in regions as remote from each other as Persia, India (Brahminabad), Western Turkistan (Old Samarkand), Egypt (Fustat), Syria (Mina), and Spain. Whereas representations of animals are very rare in the Baghdad lustre ware of Samarra type and human figures are never met with, motifs of both kinds belong to the stock of designs at the disposal of these later painters. The animals are often represented with infinite grace betraying a marvellous sense of the adaptability of the motifs for decorative purposes; human figures, on the other hand, are portrayed in a style that is extremely archaic, or perhaps archaistic, in conformity with tendencies that one can trace in the Persian *champlevé* ware and in Egyptian tapestry-weaving. Even if one accepts Kühnel's theory that all this lustre ware was made at Baghdad, one must admit that it betrays an increase of Iranian influence, quite natural at a time when the Buwaihids (932—1055), claiming to be descendants of the ancient Kings of Persia, were the true rulers of Baghdad, while the Samanids (874—999), also of Persian origin,

⁵¹ R. Velázquez Bosco, *Medina Azzahra y Alamiya*, Madrid, 1912, pp. 78 f., Pls. 49—52.

counterbalanced their influence from their splendid court at Old Samarqand. During the same period two dynasties of Turkish race, the Tulunids (868—905) and the Ikhshidids (935—969) ruled over Egypt, only formally acknowledging the suzerainty of the Abbasid Caliphs. The connections between Baghdad and Qairawan were of the same loose character during the time when the Arabic Aghlabids ruled in Ifriqiya, the Africa Minor of the Romans (800—909); the establishing of the Fatimids (909), judged as heretics by the Sunnites, meant a complete rupture with Baghdad which found an expression in their adopting the title of Caliph, as did also the Umayyad ruler of Spain, 'Abd al-Rahman III, in the year 929.

During the greater part of the 9th century the Abbasid Caliphate, in spite of all signs of political decay, had been strong enough to create, while mingling together influences emanating from various regions, what is known as the 'Imperial Abbasid style'. These centripetal tendencies were followed by centrifugal, affecting a revolution of art in the entire Empire. The works of art exported from the capital of the Caliphate inspired craftsmen established in the other artistic centres of Islam. With the political disintegration these craftsmen gradually got out of touch with the work produced in Iraq, and some of the courts that flourished during this period might have attracted artisans working in that country. There is thus nothing unnatural in supposing that just as Egyptian glass-workers and potters had settled in Iraq, so did now painters of lustred pottery, perhaps of Egyptian descent, introduce their art into Egypt. This country thus made itself entirely independent of the import of such pottery. In the Fatimid period this must have been judged a necessity on account of the political conditions; but, as will be shown in the following Chapter, there is evidence for assuming that lustred pottery was made in Egypt already in Tulunid time. These early Egyptian products can be distinguished from their Iraqi prototypes only by examining the clay, which in the Egyptian specimens has not the yellowish tinge characteristic of the clay baked in Iraqi kilns.

CHAPTER III

Lustre-Painting during the Fatimid Period.

The Idrisids of Morocco (788—985), the first Shi'ite dynasty in Islam, were, through al-Hasan, descendants of Fatima, the daughter of the Prophet. The claim of the Fatimids to a similar descent, through al-Husain, has been very much doubted. The founder of the dynasty, as a Caliph known as 'Ubaid Allah al-Mahdi (909—934), had been brought up in Syria and Iraq. The Fatimids were, like the Idrisids, Shi'its and tried to introduce improved social and religious conditions in Islam. Their ideas were anticipated and reflected by Arabic theology, mysticism (al-Hallaj), poetry (al-Mutanabbi) and political movements (the Qarmatians) of the 9th and 10th centuries. During a part of this period, a Shi'ite dynasty of Arab origin, the Hamdanids (932—1003), ruled over a greater part of Northern Syria and Upper Mesopotamia, while the Iranian Buwaihids, who from 932 till 1055 were the true masters of Southern Persia and Iraq, showed Shi'ite proclivities in spite of the outward homage they paid to the Abbasid Caliph.

A few years after having driven the last Aghlabid out of Ifriqiya, al-Mahdi established a new residency, situated on the coast. His grandson al-Mansur (946—953) founded, in the vicinity of Qairawan, Mansuriya (also known as Sabra), a site which was also occupied as a residency by the Zirids (Zairids; 972—1148), one of the two clans belonging to the Sanhaja Berbers whose chiefs were appointed lieutenants of the Fatimids after these had made Cairo their capital, in connection with the conquest of Egypt (969), the second of these clans being the Hammadids (Banu Hammad; 1007—1152), who in the 11th century ruled Algeria from Qal'at Bani Hammad. The Fatimids gradually lost all control over their western provinces, including Sicily that was conquered by the Normans in 1071. The Norman Kings showed great toleration of the Moslems. The art that flourished under these kings in Sicily and in parts of Southern Italy betrays a blending

of Western, Byzantine and Fatimid influence, the last of which reached the Norman dominion not only from the neighbouring parts of North Africa, but also from Egypt.

The loss of the western provinces to the Fatimids was to some extent counter-balanced by the conquest of Syria, part of which remained for a long time under Fatimid rule. But it was in Egypt, and particularly in Cairo, that Fatimid art developed into its greatest splendour. Together with Early Mamluk art it represents the highest peak reached by Moslem art in Egypt.

The detailed description given by al-Maqrizi from earlier sources of the treasures of al-Mustansir (1036—94), dispersed and partly destroyed by fire during the years 1062—68, bears witness to the almost unbelievable luxury which was developed at the Fatimid court in spite of the ascetism propagated during a part of his reign by the cruel and fanatic al-Hakim (996—1021), whom the Druzes still hold to be an incarnation of the Deity.

The murder of al-Hakim (contested by the Druzes) may be regarded as marking the first turning-point in the evolution of Fatimid art in Egypt (and Syria). The Early Fatimid period (969—1021) thus embraces the reigns of al-Mu'izz, al-'Aziz (975—996) and al-Hakim. The art of this period is distinguished by bold design and has an outspoken male tenure; it is nevertheless rather heterogeneous. While Coptic tradition is prevalent in out-of-way districts, such as the Faiyum, the art patronized by the Court is marked by two predominating trends: continuation of the 'Abbasid Imperial style' as developed during and between the Tulunid (868—905) and Ikhshidid (935—969) periods, and, on the other hand, innovations due to new influences from the Moslem East as well as from the Maghrib. The puritanic inclination of al-Hakim may for a time have favoured a certain restraint and even archaism in decorative arts.

In the Middle Fatimid period, that comprises the reigns of al-Zahir (1021—36) and al-Mustansir (1036—94), the tendencies predominant in Early Fatimid art are blended into a graceful, somewhat feminine style that was in some domains of art perfect master of its means of expression. A close parallel to the difference between both styles is afforded by a comparison between the 'Aleppo' and the 'Damascus' styles in the enamelled and gilt glass of the 13th century, to be discussed in the following Chapter. Figural friezes in glass of the 'Damascus

Group' (*Pl. XIX*), with their restraint decoration worked on a small scale, reveal similarities to works in wood or ivory of the Middle Fatimid period that can not be entirely fortuitous.

A great patron of art during the latter part of this period was the Vizier Badr al-Jamali (1074—94), a freed slave of Armenian origin who died just a few months before his Master al-Mustansir. The six Caliphs that reigned during the Late Fatimid period (1094—1171) were entirely over-shadowed by Viziers such as Badr's son, al-Afdal Shahanshah (1094—1121), and al-Salih Tala'i (1154—60, d. 1161), who both had to fight the new invaders of the Moslem East, the Crusaders (from 1095). The art that flourished in Egypt under the protection of such omnipotent Viziers was hardly affected by Frankish influence, while there are signs of mutual influence between Late Fatimid art and the art that had been developed under the Turkish Saljuqs and their Atabeks and other officers, one of whom, the Kurd Saladin, founder of the Aiyubid dynasty, made once for all an end to Shi'ite rule in Egypt.

Late Fatimid decoration has lost the restraint of the preceding art style, and the single motif is often treated with negligence. New methods of geometrical subdivision are produced either by means of straight-lined framework or by interlaced bands. The arabesque in its 'classical' shape and the round Naskhi writing as used for decorative purposes, are creations of the 12th century that were to be of great consequence to the art of subsequent periods.

The austere tastes of Saladin may to some extent account for the descending curve of Egyptian art during the Aiyubid period, save in the fields of woodwork and military architecture. As the beginning of this period marks the end of the production of lustred glass and pottery in Egypt, it would seem that Saladin's orthodox Sunnism made him hostile not only to the use of gold (and silver) vessels, condemned by the precepts of Islam, but also to such materials with a golden film that might have owned their popularity just by being inoffensive substitutes for such golden vessels.

It is significant that, as there is not in Arabic a special word for lustre, the term 'gilt' (*mudhahhab*) is also used in the sense of 'lustre' (cf. 'gold lustre'), an ambiguity already referred to in the previous Chapter. In his *Book of Jewels and Perfumes*, written at Tabriz in 1300/1, a member of a family of lustre painters from Kashan, Abu-l-

Qasim 'Abd Allah b. 'Ali b. Muhammad b. Abi Tahir, describes 'cold' gilding immediately after having given an account of how golden effects of great brilliancy are obtained by what we would call the lustre procedure.¹

In his detailed description of the treasures of al-Mustansir, al-Maqrizi uses the term *al-mina al-mujra bil-dhabab*, literally "*mina* run through with gold",² in the double sense of *émail cloisonné*³ and 'lustred (and gilt) glass paste'. Such glass is referred to in another passage of the same text, which I prefer to quote in P. Kahle's verbal translation⁴:

"Und es heisst: Was das anbelangt, was man nahm von dem Vorrat der Schatzkammern des Bergkristalls (*billaur*) und des Kunstglases (*muhkam*) und des Mina, des golddurchzogenen (*mujra bil-dhabab*) und des einfachen (*majrud*), und des baghdadischen, und der Bambusgeräte (*khayazir*) und der Lackware (*madhun*) und der Maserholz-Geräte (*khalanj*) und der chinesischen [Dinge] (*sini*) ... so gehört es zu dem, dessen Menge unzählbar ist."

Besides vessels of lustred (and gilt) glass paste, there were thus, in the same treasure, those made of plain glass paste. As may be inferred

¹ H. Ritter, J. Ruska, F. Sarre and T. Wunderlich, *Orientalische Steinbücher und persische Fayencetechnik*, *Istanbuler Mitteilungen*, III, 1935, pp. 29 f., 46 f. and 58 f.

² P. Kahle, *Die Schätze der Fatimiden*, *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, LXXXIX, 1935, pp. 329—62, and K. Röder, *Das Mina im Bericht über die Schätze der Fatimiden*, *ibid.*, pp. 363—71 (with some unacceptable interpretations). See also P. Kahle, *Bergkristall, Glas und Glasflüsse nach dem Steinbuch von al-Bērūnī*, *ibid.*, XC, 1936, pp. 322—56 (*al-mina*, pp. 349—52), C. J. Lamm, *Das Glas von Samarra*, Berlin, 1928, pp. 112 f. and 115, and *idem*, *Mittelalterliche Gläser und Steinschnittarbeiten aus dem Nahen Osten* (cited 'Gläser'), Berlin, 1929—30, I, pp. 511 f. (from al-Maqrizi). — The word *mina* is used as a designation for 'enamel', 'glass paste' or 'glaze', or, *pars pro toto*, for any material having decorations of such kind, or even for 'glass mosaics', particularly by authors who were not familiar with the more specific term *fusaifisa*, taken over from the Greek. *Mina* is according to Kahle derived from Latin *minium*, perhaps of Spanish (Iberian) origin, German *Mennig(e)*; synonymous with the word 'minium' as used in English are 'red lead' and 'red oxide of lead'.

³ The term might also include *verroterie cloisonnée*, but the Byzantine, Egyptian and Iraqi works in al-Mustansir's treasure were certainly of the enamelled type. Concerning Fatimid (and related) *émaux cloisonnés*, see Zaki Muhammad Hasan, *Kunūz al-Fatimiyyin* ('The treasures of the Fatimids'), Cairo, 1937, pp. 243—6, figs. 1—4.

⁴ *Loc. cit.*, pp. 341—4.

from some texts quoted by Kahle in his commentaries to this passage (quoted in the previous Chapter), the *baghdadi* must have been a fine glassware with wheel-cut ornament.⁵ To the word *sini* ('Chinese') Kahle remarks: "Hier ist doch sicher Porzellan gemeint" (real 'China'). The same German author quotes in his study *Islamische Quellen zum chinesischen Porzellan* the following passage from the story of a voyage to India and China that the Arabic merchant Sulaiman wrote down in 851⁶:

"Sie (die Chinesen) haben den feinen Ton (*al-ghadar al-jaiyid*) und man macht aus ihm Trinkgefäße (*aqdah*) in der Feinheit der Gläser (*qawarir*), in denen der Schein des Wassers (*dau al-ma*) zu sehen ist, obwohl sie von Ton sind."

Kahle continues: "Dem Muslim fiel offenbar die Transparenz der Gefäße auf. Er betont sie ausdrücklich und weist darauf hin, dass das der Fall ist, obwohl sie von Ton sind. Durchscheinende Gefäße kannte der Muslim eben nur aus Glas."

Their efforts to imitate the stoneware imported from China were sometimes quite successful, but really transparent ceramics have only quite exceptionally been produced in Moslem countries before the Safawid period. The Chinese may once have invented the making of porcelain in the search for a substitute for glass brought from Western countries: now the inhabitants of these regions tried to imitate in glass the material, the secrets of which they could not unravel.

"De nombreux fragments de verre opacifié par l'étain ou par le phosphate de chaux et couverts de décors à reflets métalliques ont été trouvés à Fustat. La plupart appartiennent, par le style de leurs décors, à l'époque fatimide. Comme leur matière est translucide et non transpa-

⁵ It is not necessary to regard the word *al-baghdadi* as an attribute to *mina*, but the connection in which the word occurs makes it natural to regard the specimens of this Baghdad ware here referred to as a kind of *mina*. One is reminded of the turquoise blue cup with relief-cut hares in the Treasury of St. Mark's at Venice; the inscription "Khurasan" cut out in the bottom in Kufic characters of the early 9th century, does not exclude a Baghdad origin: it might have been put there with fraudulent intent as turquoise was chiefly mined in Khurasan (C. J. Lamm, *Gläser*, I, pp. 158 f., II, Pl. 58, 23; *idem*, in *A Survey of Persian Art*, III, Oxford, 1939, p. 2597, and VI, 1939, Pl. 1444, A); the comments made by the Editors of the *Survey*, who think the bowl was made in Khurasan, have little bearing on the subject. The four-lobed shape of the vessel is of Chinese inspiration.

⁶ *Loc. cit.*, LXXXVIII, 1934, p. 11.

rente en raison de la présence d'un opifiant, on peut admettre sans grand risque d'erreur, que ce sont là les vestiges des œuvres qui ont pu être vues par Nasir-i Khusrau. Ces verres opaficiés devaient imiter la porcelaine de Chine, qui était si prisée par les hauts dignitaires à l'époque fatimide."⁷

I will quote from R. Kahle's translation⁸ what that Persian poet and traveller, who made two long stays in Egypt between the years 1046 and 1050, has to say about the matter in his *Safar-nama*:

"Und in Misr macht man *sifalina* von aller Art, so fein und durchsichtig, dass die Hand, wenn sie von aussen angelegt wird, von innen durch die Wand sichtbar wird, so Pokale (*kasa*), Becher (*qadab*), Schalen (*tabaq*) und anderes; und man färbt es, so dass es der *Buqalimun*-Farbe ähnelt, so dass es, von welcher Seite man es sieht, eine andere Farbe zeigt."

This 'pottery' made at Old Cairo (Fustat), and perhaps nowhere else, must be identical with (or at least specifically comprise) the opaque, lustred glass just mentioned: all other explanations — and there are many — must be discarded together with the far-reaching deductions that were made from them. A. J. Butler's interpretation of the text as referring to polychrome lustre as distinct from monochrome⁹ has been combatted with particular verve by R. Koechlin.¹⁰

What was the *buqalimun*? Here again Nasir-i Khusrau gives valuable hints, which I will quote in Ch. Schefer's translation¹¹:

"Tinnis est une île (*near the present Port Said*) sur laquelle on a bâti une belle ville . . ."

"On tisse à Tinnis des *qasab* (*a fine linen stuff*) de couleur . . .

⁷ 'Ali Bey Bahgat and F. Massoul, *La céramique musulmane de l'Égypte*, Cairo, 1930, p. 40.

⁸ K. Röder, *loc. cit.*, p. 365, note 3, from p. 75 of the Berlin edition of 1922. — The glass industry of the same locality is directly referred to by Nasir-i Khusrau in passages quoted in C. J. Lamm, *Gläser*, I, p. 488, from Ch. Schefer's edition and translation (Paris, 1888).

⁹ *Islamic Pottery*, London, 1926, pp. 40—4.

¹⁰ *Les céramiques musulmanes de Suse au Musée du Louvre. Mémoires de la Mission archéologique de Perse*, XIX, Paris, 1928, pp. 96—105.

¹¹ *Op. cit.*, pp. 110 f., 113, 137 and 158. Cf. 'Ali Bey Baghat, *Bulletin de l'Institut Egyptien*, 4th series, IV, 1903, pp. 351—61, and A. J. Butler, *op. cit.*, pp. 40 f., where the *buqalimun* is said to be a kind of shot silk; this wrong interpretation could be supported by some Arabic texts, the earliest of which is from the 13th century.

Le *qasab* blanc se fait à Damiette. Celui qui est tissé dans les ateliers du sultan (*the Fatimid Caliph*) n'est ni vendu ni donné."

"C'est aussi à Tinnis et nulle part ailleurs, que l'on fabrique l'étoffe appelée *buqalimun* dont la couleur change selon les différentes heures du jour. On l'exporte dans les pays de l'occident et l'orient.

On m'a dit que l'empereur de Grèce avait offert cent villes au sultan à la condition de recevoir Tinnis en échange. Le sultan rejeta cette proposition. Le désir de posséder la ville qui produit le *qasab* et le *buqalimun* avait porté l'empereur à faire cette demande."

"Le *qasab* et le *buqalimun* fabriqués pour le sultan sont payés à leur juste valeur; les ouvriers (*chiefly Copts*) travaillent donc avec plaisir pour lui, contrairement à ce qui se passe les autres pays où l'administration et le souverain impose des corvées aux artisans. On tisse en *buqalimun* les couvertures des litières que l'on place sur les chameaux, et les tapis de selle destinés à l'usage particulier du souverain."

He mentions how such saddle-cloths, woven to the measure, and neither cut nor sewn together, were used at the ceremonial opening of the Khaliġ, the canal that ran through Misr. These saddle-cloths, and others made of Greek satin, had borders with inscriptions containing the name of the sovereign. The pavilion of Greek satin erected for him on the same occasion was preceded by a passage made of *buqalimun*, and of such material were also the carpets and hangings in the banqueting and throne hall in the Caliph's main palace at Cairo.

The most striking quality of the *buqalimun*, its sheen or lustre of changing colours, is implied by its very name, which means 'chameleon tissue'.

The word chameleon, French *caméléon*, Latin *chamaleon*, is derived from the Greek word *καμαιλέων*, literally 'ground lion'. (The Arabic name of the animal is *hirba*.) The expression *étoffe caméléon* is still used in French for a "*tissu à reflets changeants*". The word *buqalimun* is most probably formed through metathesis from the French word preceded by '*abu*', 'father', in the sense of 'having the quality of', a word that has lost its initial vowel, all of which speaks in favour of a Maghribine (or Andalusian) origin.

This etymology¹² may perhaps be explained through the following

¹² Zaki Muhammad Hasan, *op. cit.*, p. 52, note 2; cf. pp. 115 f. — The form 'Qalamun' exists as the name of a village near Tripoli and a mountain near Damascus (Nasir-i Khusrau, ed. and transl. Ch. Schefer, p. 42, note 2).

quotations. The first, from a work compiled in Egypt by al-Ibshihi (al-Abshihi; 1388—1446), will here be quoted in G. Rat's translation¹³:

"Turaiya, fille d'al-Aubari, reine de France et des pays environnants (*Ifranja wa-ma walaha*), envoya en cadeau à al-Muktafi billah en l'année 273 (*H.*, 886/7 *A.D.*), cinquante sabres, cinquante lances, vingt costumes en étoffs tissées d'or ... une couverture (*midrab*) en soie piquée (*harr*), aux teintes variées comme celle de l'arc-en-ciel et changeant couleur à tous les instants du jour ..."

It should be noticed that the Abbasid Caliph who reigned in 886/7 was *not* al-Muktafi (902—908), but al-Mu'tamid (870—892), who in 883 restored Baghdad as a capital after Samarra. After a thorough study of the matter I have come to the conclusion that the queen mentioned in the text can only be Theodorada, probably a daughter of Audran (Autran) II, Count of Troyes, about 882—883 married to Odo (Eudes), who at this time became Count of Paris and who was from 888 to 898 King of France. On the Mediterranean, from about 889, he had the control of Septimania and the Spanish Marshes.¹⁴ (The importance of the latter statement will be gathered from the following.)

The second of the quotations referred to is from the geographical work of al-Istakhri, who wrote in 951/2. He says concerning Santarem, situated on the Tejo at a distance of 7.4 km. from Lisbon¹⁵:

"At Shantirin (from 'St. Irene') is at one time in the year brought from the sea a slow-moving animal (*dabba*) that comes in contact with the rocks of the sea-shore and fixes itself by its byssus (*barr*), which is soft like silk (*kbazz*). It has the colour of gold and nothing of it fades away. It is costly and rare; it is collected and clothes are woven from it that change their colour during the day. The Umaiyyad King prevents it being used by others, and the only export takes place secretly. The price of a single garment may, on account of its rarity and beauty, exceed 1,000 dinars."

¹³ *Al-Mustatraf*, II, Paris and Toulon, 1902, p. 85; Arabic ed., Cairo, 1300 H. (1883), II, p. 67.

¹⁴ E. Favre, *Eudes, comte de Paris et roi de France (882—898)*, Paris, 1893, pp. 15 and 202 f. — The *ta* in the transcribation of 'Autran' might easily have been changed into a *ba*. It is more difficult to explain the suppression of both *d*'s in the name Theodorada.

¹⁵ *Bibliotheca geographorum arabicorum*, ed. M. J. de Goeje, I, Leyden, 1870, p. 42.

This passage has been taken over by al-Maqdisi (al-Muqaddasi), who wrote in 985/6.¹⁶ He does not, however, specify the name of the place where the product is found, nor of the dynasty who tried to keep it as a monopoly. On the other hand the technical term *abu qalimun* is here used. The quantities in which this material exists is said to comprise one of the wonders that is found in the western part of the Moslem world. Although al-Maqdisi speaks of quantities where al-Istakhri speaks of great scarcity, he says that a single garment of this stuff might sometimes reach a price of 10,000 dinars, which is just ten times the price mentioned by al-Istakhri.¹⁷ It is very doubtful indeed whether any definite conclusions could be drawn from the changes made by al-Maqdisi in the text.

Al-Istakhri's description is quite correct in technical matters. The byssus¹⁸ he speaks about are filaments secreted by the byssus-gland in the foot of certain mussels belonging to the genus *Pinna*, the species particularly utilized for the production of textiles being *P. squamosa* and *P. nobilis*, which reach a length of 50—70 cm. and are both found in the Mediterranean. As late as during the latter half of the last century *Pinna* tissues were produced on a small scale, and chiefly for minor objects (such as gloves and purses), round various places in South Italy (Tarento, Reggio), Sicily (Palermo) and Dalmatia, as well as in Normandy; byssus was collected also in Sardinia, Corsica and Malta. The *Pinna* silk (also known as 'sea silk', 'byssus silk' or 'fish wool') ranges in colour from a beautiful golden yellow to a rich brown; the textiles made of it are praised for being almost as soft and delicate as real silk, and warmer and more durable.¹⁹ On account of their durability, one would expect sometime to find fragments of *buqalimun* among the Fatimid textiles excavated in Egypt, although the use of them was very much restricted. As a matter of fact have textiles made of *Pinna* silk always been very expensive.

¹⁶ *Ibid.*, III, 1877, p. 242.

¹⁷ According to al-Maqrizi a mattress (*martaba*) of *buqalimun* was sold at the dispersion of al-Mustansir's treasure at a price of 2,400 dinars; cf. Zaki Muhammad Hasan, *op. cit.*, p. 52, quoting *al-Khitat*, Bulaq, 1270 H. (1853/4), I, p. 416.

¹⁸ Concerning this sense of the word, see *A New English Dictionary*, I, Oxford, 1888, p. 1239.

¹⁹ Cf. J. M. Matthews, *The Textile Fabrics*, revised ed., New York and London, 1924, as well as texts quoted by M.-Th. Schmitter, *Revue Archéologique*, 6th series, IX, 1937, pp. 214—6.

The manufacture of *buqalimun* at Tinnis can not have survived the catastrophes of which the town was a victim during the latter half of the 12th century, chiefly through attacks by the Franks. Its linen fabrics had been famous already during the Roman period, and it is by no means impossible that Pinna silk was produced there in those days. Nevertheless I am inclined to think that the manufacture of *buqalimun* at Tinnis as described by Nasir-i Khusrau was due to an incitement from the Moslem West, perhaps in some way connected with the Fatimid conquest of Egypt.

But there exists another Arabic designation for the Pinna silk: *suf al-bahr*, 'wool of the sea', or 'sea wool'.²⁰ The corresponding Greek term, ἔριον Θαλάσσιον, is used in Diocletian's *Tariff* of the year 301, which fixes the price of the textile itself.²¹ Among the authors using this expression is Procope (d. about 568), the secretary of Belisarius, born at Caesarea, on the coast of Palestine. The Pinna mussels referred to in Talmud literature as *khaya she-ba-yam* ('animals that are in the sea')²² were no doubt collected on the Syro-Palestinian coast. This is corroborated by the following statement found in a Chinese description of Ta-Ts'in: "Il s'y trouve des étoffes d'un tissu parfaitement fin qu'on dit fabriquées avec la laine des moutons d'eau (*shui-yang*)."

In other Greek and Latin texts, the Pinna (πίννα) is mentioned by its proper name. St. Basil, Bishop of Caesarea in Cappadocia (d. 379), praises the golden hue of its filaments. Tertullian of Carthago (d. after 220) writes in his work *De pallio*: "Nec fuit satis tunicam pangere et serere ni etiam piscari vestitum contigisset: nam et de mari vellera, quæ muscose lanositatis lautiores conchæ comant."

The earliest information we have about Pinna is contained in the

²⁰ R. P. A. Dozy, *Supplément aux dictionnaires arabes*, Leyden, 1881, I, pp. 6, with valuable references.

²¹ For this paragraph and the two following ones, see M.-Th. Schmitter, *loc. cit.*, with further references. As a synonym for ἔριον Θαλάσσιον the *Tariff* once uses the term Θαλάσσιον συνερικόν; the latter word, a Greek transcription of the Latin word *subsericum*, is, according to Mlle. Schmitter, a denomination for an inferior quality of silk. — According to some Arabic sources the use of *buqalimun* in Islam was due to Greek influence. It has also been held for a bird (L. Binyon, J. V. S. Wilkinson and B. Gray, *Persian Miniature Painting*, London, 1933, No. 176, d, p. 139, Pl. 97, d, from a MS. of al-Qazwini's *Ajaib al-makbluqat*, dated 1545).

²² Cf. S. Krauss, *Talmudische Archäologie*, I, Leipzig, 1910, pp. 138 and 536, note 116.

Periplus maris Erithraei (probably about 60 A. D.) and has been summed up by M.-Th. Schmitter as follows:

“Le Périple signale la présance de la *πύλλα* sur plusieurs marchés de la mer Erythrée. A Omana sur le golfe Persique on trouvait des *pinnae* provenant d'Arabie et de Barygaza. Mais les pêcheries les plus importantes se trouvaient dans le sud de l'Inde: à Ceylan et sur la côte du Dekkan qui fait face à Kolkos. L'utilisation des filements pour le tissage est également signalée par le Périple à propos d'Argalos près de Kolkos.”

Also in modern days Pinna silk has been collected in the Indian Ocean and its dependencies. The Pinna byssus has in France been known also as *ablaque*, a second synonym being *ardassine*; most of it is said to have been brought from Persia by way of Smyrna.²³

Al-Ibshihi (al-Abshihi) records about Abarwiz (Khusrau II, 590—627), after having spoken of a turban in his possession that was cleaned by being thrown into the fire (it was thus an asbestos stuff): “Il avait aussi un superbe manteau (*rida*) dont la couleur changeait à tous les instants.”²⁴ It is of course impossible to know whether this gown — if it existed — was made from byssus collected in the Mediterranean or on the northern shore of the Persian Gulf and the Indian Ocean: but it is quite certain that in the days of Nasir-i Khusrau no textiles were made of such byssus in Persia, his native country, and *perhaps* nowhere else in Islam than at Tinnis.

I have now come back to the starting-point of this long digression: the lustred, transparent ‘pottery’, i. e., glass paste, which was at that time produced at Misr only, the name being used here as a designation for Old Cairo, or Fustat.

These opaque glass pastes, generally in white (milk or ‘lattino’ glass), Celadon colour, pale blue or lilac, are generally decorated inside and outside the vessel; the lustre is sometimes replaced by gilding.²⁵ As was already mentioned, this opaque glassware was certainly used by the Fatimids as a substitute for porcelain, which they also tried to imitate in pottery, in ordinary faience as well as in a harder ware. Lustred motifs occurring on this glass are similar to those found in the

²³ A. Lecler in *La grande encyclopédie*, I, Paris, n. d., p. 98.

²⁴ *Op. cit.*, transl. G. Rat, I, 1899, p. 821, ed. Cairo, 1300 H., II, p. 34.

²⁵ For a general account of lustred and related glass of the Fatimid period, see C. J. Lamm, *Gläser*.

corresponding class of pottery of the same period. The signature of Sa'd, the famous lustre painter of the 11th century, is said to be found on one example of this glass, among which only fragments have been preserved. Very often the lustred ornament is enlivened by designs obtained by incisions in the paint. Most examples date from the 11th and 12th centuries.

In a group of blue glass (of which only fragments remain), the ornament is executed in gilding and semi-vitreous enamels of light shades, sometimes combined with lustre (*Pl. 5, 3*). Related to this class, which mainly belongs to the second half of the 10th century, is a famous cup of Byzantine manufacture in the Treasury of St. Mark's in Venice, which is decorated with scrolls, figure representations of purely Hellenistic style and on the inside of the rim, with ornament derived from Kufic letters.²⁶ The connection with Egypt has been explained by Gladys R. Davidson through a recent find from Corinth. A fragment of this category, including figural representations, has been discovered in Persia.²⁷ In Peter Damian's (d. 1072) *Vita S. Odilonis* (d. 1049) one reads as follows²⁸: "Aliquando imperator Henricus (II; d. 1024), dum apposita mensa discumberet, vas illi holovitream valde pretiosum et Alexandrini operis arte compositum, cum tritis (*ground*) est pigmentis allatum." The vase was broken and restored by the miraculous power of the Saint. Heraclius ("Pseudo-Heraclius", probably 12th century) and Theophilus (about 1100) describe proceedings by which such enamelling and gilding were protected by a flashed-on layer of transparent glass.²⁹ No actual glass corresponding to their descriptions has been preserved, but it should be mentioned in this connection that the related technique of the *Zwischengoldgläser* continued to be in use — though rather rarely — right within the mediaeval period. One or two fragments of this technique are apparently of Fatimid origin.

Some of the rare fragments of a group of greenish glass painted

²⁶ *Ibid.*, I, pp. 107 f., II, Pl. 34, 1.

²⁷ C. J. Lamm, *Glass from Iran in the National Museum, Stockholm*, Stockholm and London, 1935, p. 15, Pl. 45, B; Gladys R. Davidson, *American Journal of Archaeology*, XLIV, 1940, p. 324, fig. 25; concerning the kindred material from Corinth, see *ibid.*, pp. 305, 319—21 and 323 f., figs. 19—22 (cf. fig. 24, from Fustat), and F. R. Matson, *ibid.*, pp. 326 f.

²⁸ C. J. Lamm, *Gläser*, I, p. 488.

²⁹ *Ibid.*, I, pp. 108 and 507 f.

on both sides, partly in brownish colours, partly in a silvery lustre, seem to belong to the 10th century and have thus been mentioned above in connection with Abbasid glass (*Pls. VI, 3, and VII, 3*).

In a group of manganese violet (purple) or blue glass the ornament is painted in lustre, which always shows great brilliancy (*Pl. V, 6*). The finer examples of this ware have patterns in which birds or hares predominate, painted in a style corresponding to that of lustred pottery of the same period. One example of this glass (*Pl. XVIII, 1*), in the Benaki Museum at Athens, is signed by Sa'd and will be mentioned again in the following. On the simpler varieties of this glassware, the decoration consists of geometric ornament, such as zigzags, lenticular shapes and bands, as well as of debased floral motifs; of this type are a number of slender polygonal bottles with funnel-shaped neck. Sometimes this kind of decoration is combined with a white 'basket' or 'fern' pattern formed by applied threads 'combed' in one or two directions and then pressed into the surface of the glass by being rolled on the 'marble' (*cf. Pl. V, 3*).

Particularly splendid are a number of fragments of mostly light yellowish green 'bottle glass', generally having an opaque carmine red layer on one side, the other showing diffusely painted ornament in several shades of red (*Pls. VI, 7, and VII, 7*); characteristic motifs are medallions containing birds or animals, and floriated Kufic inscriptions. This glassware, which is particularly well represented in the Arabic Museum at Cairo and in the Benaki Museum, seems to range from the 10th to the 12th century, though a few specimens containing this red colour may be assigned to the 9th century. This highly sophisticated glassware is related to a variety of Abbasid date, mentioned previously, in which, however, orange yellow, instead of red, prevails.

A type of glass mostly of greenish tinge has ornament painted in lustre colours, which now generally have a brownish shade and only occasionally show the coloristic effects peculiar to lustre (*Pl. V, 5*). During the Fatimid period, this sort of painting was generally applied to one side of the glass only, not to both sides as was the rule during the previous periods. Typical devices are spiral scrolls, multifoil rosettes, star motifs formed by the interlacing of polygons, and two different kinds of ornament derived from Kufic letters. A few specimens have been preserved in their entire shape. The latest examples of this glassware belong to an early part of the Aiyubid period, during which

Syria was to take the lead in the manufacture of glass with burnt-in painting. A fragment of this type of Egyptian glass, dating from the Early Fatimid period, bears an inscription according to which the glass was made by 'Abbas b. Nusair b. Abi Yusuf Jarir al-Talawi.³⁰ This lustre-painter was thus, judging from the *nisba*, a native of Tala, south of Tanta. Perhaps he was like most other lustre-painters of the period established at Fustat.

It has been shown in the previous Chapter that lustre is an invention of Egyptian glass-makers; that in Iraq such painting was executed on pottery covered with opaque white glazes often containing tin; and that examples of this pottery, often polychrome, were imported into Egypt.³¹ The earliest specimens of undoubtedly Egyptian make belong to the late 9th century. A bowl with an elephant, in the collection of 'Ali Pasha Ibrahim at Cairo, has an inscription according to which it was made by Ibrahim in Misr (Old Cairo or Egypt).³² This piece should probably be dated to the first half of the 10th century; another painter of the same name flourished in the 11th century. Other early painters are Ramadan and Tabib, probably active chiefly during the Ikhshidid period, and 'Ali and Saji, who worked during the Early Fatimid period in a somewhat archaistic manner. A fragment in the Arabic Museum at Cairo with floral ornament of Ikhshidid type, has an inscription containing the name of al-Hakim³³; compare with this the archaic ornament of the wooden door ordered by that Caliph for the Azhar Mosque in 1010.³⁴

The most remarkable painters in lustre were Muslim³⁵ and Sa'd.

³⁰ C. J. Lamm, *Gläser*, I, p. 117, II, Pl. 39, 5.

³¹ The following account of Fatimid lustre pottery is based upon a paper which I have published, in an Arabic translation made by 'Abd al-Rahman Zaki, in *al-Muqtataf*, May, 1935, pp. 567—74. See also, among the numerous works dealing with the subject, 'Ali Bey Bahgat and F. Massoul, *op. cit.*, and Zaki Muhammad Hasan, *op. cit.* It would lead much too far to make here special statements in cases where the present writer holds opinions that are not in harmony with ideas expressed by others.

³² G. Wiet, *Ars Islamica*, III, 1936, pp. 173—9, figs. 1—3.

³³ *Ibid.*, p. 179, fig. 4.

³⁴ C. J. Lamm, *Bulletin de L'Institut d'Egypte*, XVIII, 1935—36, pp. 68 f., Pl. 3; concerning archaistic tendencies in Fatimid art, particularly during the reign of al-Hakim, cf. *ibid.*, p. 71, note 5.

³⁵ Nobody seems to have noticed that Muslim's name is given in full on a fragment in the Arabic Museum, published by 'Ali Bey Bahgat and F. Massoul (*op.*

'Ali Bahgat's opinion that Sa'd belongs to an earlier period than Muslim is certainly erroneous; it is reasonable to suppose that Muslim worked about the time of al-Hakim, while Sa'd's activity falls within the long reign of al-Mustansir (Middle Fatimid period). One does not know why only certain pieces were signed, while the majority bear no signature. Amongst the latter are many examples of a very high quality, undoubtedly painted by these outstanding masters. One must, however, not believe that all pieces revealing their style were made by their own hands, nor even necessarily in their workshops. To be on the safe side one should speak of the 'School of Muslim' and the 'School of Sa'd', both of which were established at Fustat.³⁶ A few words will now be said about the chief characteristics of these two schools.

In works produced by the 'School of Muslim' the glaze covers the entire object, including the base, which is bounded by a low ridge. The glaze is always white, but rarely as pure in tone as that of Ikhshidid pottery. The lustre-painting is always in one tone, often golden, in exceptional cases verging towards copper red. The inner design is never formed by incised lines. Muslim's signature is written in plain Kufic letters, sometimes approaching Naskhi, generally on the base of the object, exceptionally near the rim in a more decorative way (*Pl. XV, 1*).³⁷ The exteriors of the vessels are generally, in a way betraying the connection with Abbasid pottery, decorated with double circles, the inner of which contain oblique lines, while similar lines are placed in the broad interstices. Animals and birds of different kinds, as well as floral motifs and Kufic lettering, are favourite devices; also human

cit., p. 58, *Pl. 14, 4* and *4 bis*). The end of the signature is unfortunately faded; thus in the reading "Muslim b. al-Nusair" the last word ought to be checked with the original. The name 'Nusair' should have no article; is it here perhaps a diminutive of *al-nasrani*, so that the entire name should be interpreted as the "Muslim, son of the little Christian"? I regret that the interruption of postal connections with Egypt at the present moment (Sep., 1940) has made it impossible to discuss this matter with the authorities of the Arabic Museum.

³⁶ 'Wasters' from Muslim's workshop are recorded to have been found at Fustat ('Ali Bey Bahgat and F. Massoul, *op. cit.*, p. 60). A potsherd made under the influence of Sa'd (cf. *ibid.*, p. 58) bears the defective inscription "... made at Misr the year ..." (D. Fouquet, *Contribution à l'étude de la céramique orientale*, Cairo, 1900, pp. 97 f. and 142, *Pl. 13, 5*).

³⁷ *Musée de l'Art arabe du Caire. La céramique égyptienne de l'époque musulmane*, Basle, 1922, *Pl. 24*.

figures appear on pieces signed by Muslim or worked in his bold and powerful style. Several bowls signed by Muslim have in recent years been acquired by the Benaki Museum at Athens. This is remarkable, as it is a fact, well-known to all collectors, that complete, or approximately complete, specimens of Egyptian pottery of the Islamic period are very scarce.

Among the followers of Muslim are Ibn Nazif al-xxbri, al-Dahhan ('the Decorator'), Lutfi, al-Husain b. . . ., and Abu-l-Faraj.

The painter Ibrahim occupies a position just between the two great masters, Muslim and Sa'd. A workshop related to his own produced pottery painted in polychrome lustre colours, including shades of green and red. This is, I think, the only instance of polychrome lustre pottery in Islam with the exception of the Baghdad work of the 9th century. The two groups have thus apparently no direct connection with each other.

In works of the 'School of Sa'd' the lower part generally has a ribbon-like base-ring, and the base is only in exceptional cases covered by the glaze. This is occasionally purely white in colour; but more often has it a bluish or reddish hue. In a particular subdivision one finds a finely cracked greyish glaze placed on a shard that, as is so often the case in Coptic pottery, has horizontal flutings which the potter produced with his fingers whilst the object was turned on the wheel. Turquoise blue glazes are also frequently used. The lustre has in most cases a yellowish olive tinge. In a group related to the 'School of Sa'd' examples with lustre painted on embossed, moulded ornament are found, while on works made also by the master himself the lustre painting is occasionally combined with ornament engraved under the glaze. The inner design is very often formed by incision in the lustred painting, not permeating the clay, a technique that is well known from Greek pottery and Early Christian *Zwischen-goldgläser*. Such incisions are also to be found in works related to those signed by Saji and thus dating from the Early Fatimid period, during which they were also used on lustred, gilt and enamelled glass.

The signature of Sa'd is invariably written in decorative Kufic letters placed on a prominent part of the object, mostly on the outer side. A fragment in the Islamic Department of the Berlin Museums has the signature of Sa'd combined with that of another painter, Hasan; this shows that Sa'd had prominent assistants in his workshop.

A bowl probably found at Luxor, in the D. Kelekian Collection exhibited in the Victoria and Albert Museum (*Pl. XVI, 1*), bears Sa'd's signature, though the order of the first and the last letter is reversed; it has on the inside the representation of a Coptic priest swaying incense.³⁸ Amongst the ornamentation filling the ground, there is a device derived from the ancient Egyptian *ankh* cross, a symbol of eternal life which was also incidentally used by the Copts as a form of the Christian cross. A related fragment in the Arabic Museum, not signed, bears a representation of Christ.³⁹ It is reasonable to suppose that Sa'd was of Coptic origin; this Arabic name is known to have been in use among the Copts.

Some of the motifs introduced by Sa'd appear to be based on prototypes of much earlier date. A silk in the Cathedral of Sens (*Pl. XVI, 2*),⁴⁰ resembling silks found at Antinoë and probably dating from the 6th century, has confronting birds, trees and baskets containing fruit, strikingly similar to devices often seen in works which can be attributed to the 'School of Sa'd'. It is difficult to explain such resemblance between objects dating from periods so far removed from each other. Unfortunately I am not able to reproduce any single example combining all, or most of the motifs that Sa'd appears to have taken over from silks of that type and adopted to the style of his period. A fragment in the Arabic Museum (*Pl. XVII, 1*) shows a tree

³⁸ A. J. Butler, *op. cit.*, p. 54, Pl. 11.

³⁹ 'Ali Bey Bahgat and F. Massoul, *op. cit.*, p. 64, Pl. 32, 2; fig. 4 on the same plate is marked with a cross, while fig. 5 shows figural representations, one of the personages being indicated as "Abu Talib" (the uncle of the Prophet). (Cf. *La céramique égyptienne*, Pl. 41.) Perhaps the name "Ja'far", written on an Early Fatimid bowl in the Arabic Museum (C. J. Lamm, *al-Muqtataf*, May, 1937, Pl. facing p. 567), should not be taken as a signature, but as an indication of the crowned personage represented, who might be, not Ja'far b. Abi Talib, but Ja'far al-Sadiq, the sixth Imam (d. 765).

⁴⁰ O. von Falke, *Kunstgeschichte der Seidenweberei*, Berlin, 1912, p. 22, fig. 42 (2nd ed., 1921, p. 4, fig. 17); E. Chartraire, *Revue de l'Art chrétien*, XLI, 54th Year, 1911, No. 8, p. 275, fig. p. 274. Three fragments (the largest 13 × 19 cm.) with ornament in tones of blue and yellow on a green background were found in 1896 "dans la châsse de sainte Paule, qui renferme surtout des reliques du don de Charlemagne". The question as to whether this silk is, or is not, of Persian origin will not be discussed here. That this textile can not be Fatimid is quite obvious; cf. concerning silks of Fatimid date, H. Schmidt, *Zeitschrift für bildende Kunst*, LXIV, 1930-31, pp. 185-91.

flanked by birds and baskets with fruit reproduced in a summary manner.⁴¹ Two fragmentary bowls in the Arabic Museum (*Pl. XV, 2 and 3*) have a decoration of elements placed on branches which cross each other in the centre of the vessel; in one case they bear the basket motif known from the fragment just described, in the other, pear-shaped buds or crowns resembling wings with a beaded transversal band, very similar to motifs represented on the silk at Sens. A fragment recalling the last-mentioned bowl and belonging to the Gemeente Museum at The Hague (*Pl. XVII, 2*) bears on its outer side the signature of Sa'd and thus forms a close parallel to the fragment of a lustred bowl of manganese violet glass preserved in the Benaki Museum at Athens (*Pl. XVIII, 1*). — Fish of purely Coptic design are often represented on pottery of this group, as, e. g., on the famous vase in the D. Kelekian Collection, exhibited in the Victoria and Albert Museum and formerly belonging to Dr. D. Fouquet at Cairo.⁴² This vase has the cracked, greyish glaze referred to above. On the inside of bowls more closely related to works signed by Sa'd, three or four fish are sometimes placed heads together⁴³; also figural representations occur. The style is not as bold as that of Muslim and his School, but more graceful; compare the difference between the carvings on the wooden screen from the Church of St. Barbara at Old Cairo (c. 990—1004, or perhaps just after 1020) and those made for the Western Fatimid Palace in Cairo (chiefly 1058—65).⁴⁴

Late examples of this group of lustred pottery, some of which were undoubtedly made after Sa'd's death, show a deteriorated execution. Figural subjects are here very rare. Base-rings are for the most part triangular in section. The decorated surfaces are often divided by strap-work that about the same time becomes so predominant in pottery engraved under the glaze, in woodwork and, above all, in tapestries worked in silk and linen. Just as within this group of textiles datable *tiraz* are now becoming more and more scarce and patterns more uniform, so does lustred pottery lose the personal note

⁴¹ *La céramique égyptienne*, Pl. 36.

⁴² A. J. Butler, *op. cit.*, p. 53, Pl. 25; very often reproduced.

⁴³ The fish and the doves so frequently used in the 'School of Sa'd' are probably influenced by Christian symbolism; cf. Zaki Muhammad Hasan, *op. cit.*, p. 97.

⁴⁴ C. J. Lamm, *Bulletin de l'Institut d'Égypte*, XVIII, 1935—36, pp. 64—8, Pl. 2, and pp. 73 f. and 90, Pl. 5, respectively.

it had during the time when Muslim and Sa'd were at work, and signatures become rare.

In addition to Hasan, who has already been mentioned, the following painters have worked in a style closely related to that of Sa'd: 'Ali b. Muthallib, Shaki, Yusuf,⁴⁵ and Husain al-Shami ('the Syrian'), whose signature is seen on the fragment of a deep bowl painted in gold lustre on a glaze of Chinese blue. This shard, as well as the single examples bearing the signatures of 'Ali and Shaki, are preserved in the Islamic Department of the Berlin Museum.

A Late Fatimid group of lustred pottery resembles a ware in which the ornament is painted in a dull manganese violet colour under a transparent glaze. The two classes must have been produced in the same workshop. Amongst the patterns used one finds medallions containing heads, probably intended as a representation of the sun. Triangular and rectangular motifs with curved sides, as well as floriated branches are other devices typical of this group, in which are also found examples decorated with a cross, and certainly made by Copts.

Fragments of lustred vessels and wall tiles, some of the latter belonging to decorations of the cross and star type, have been found at Qal'at Bani Hammad, in Algeria. The Qal'a flourished during the 11th century, and the pottery found there must be assigned chiefly to that period. The lustred specimens have been thought to be, like some potsherds of the same technique found near Ragusa, in Sicily,⁴⁶ imports from Egypt, and I will not deny the possibility of some of them being of Egyptian origin.⁴⁷ However, one must expect *a priori* to find on objects produced in Ifriqiya during the period of the Sanhajas, instances of a strong Egyptian influence; and the Egyptian type of certain lanceolated designs or of some inscriptions in floriated

⁴⁵ 'Ali Bey Bahgat and F. Massoul, *op. cit.*, p. 60, Pl. 22, 10 and 10 *bis*. Cf., on the same plate, 1 and 1 *bis*, signed "Abu", and 5 and 5 *bis*, with a signature that I can not read. These signatures have on p. 60 been rendered as 'Arif and Lutfi, respectively. The fragments belong to the Sa'd group.

⁴⁶ P. Orsi, *Bollettino d'Arte*, IX, 1915, pp. 250—6 with figs. The fragments were found together with four Fatimid coin weights of glass, all of the 11th century.

⁴⁷ I know these fragments only from the drawings of G. Marçais, reproduced in his work *Les poteries et faïences de la Qal'a des Benî Hammâd (XIe siècle)*, Constantine, 1913.

Kufic⁴⁸ do consequently not suffice as a proof of the Egyptian origin of the lusted object on which they are painted. Further, I do not know of any lusted tiles of Fatimid date having been found at Fustat, the lusted tiles from the Qal'a being, as a matter of fact, the oldest examples of a type of wall decoration that was to reach its zenith in works produced at Kashan, in Persia, during the 13th century. It should be mentioned as another argument against the theory of an Egyptian origin that in these wall decorations tiles of one shape only are lusted, while the others have a monochrome glaze of local type; so may lusted cross tiles be combined with eight-pointed stars covered by a green glaze.⁴⁹

There is a striking similarity between the *jeux de fond*, or filling-in designs used in this lusted ware⁵⁰ and those found on the tiles set up in or about the year 862 by the Aghlabid Prince Abu Ibrahim Ahmad in the Great Mosque at Qairawan.⁵¹ Now a mediaeval text contains the information that some of these tiles (already referred to in Chapter II) were imported, together with teak wood and marble panes, from Baghdad, and that the remaining tiles (*qirmid*, pl. *qaramid*) were made on the spot by a man from Baghdad,⁵² where the imported tiles — intended to be used for the decoration of a reception room — had undoubtedly been manufactured. The tiles at Qairawan, though related to each other, are of two types, some being polychrome, the others monochrome. Thus, if one is to entirely accept the information afforded by the text just referred to concerning these tiles, it is reasonable to suppose that the imported tiles are identical with the polychrome series, while the monochrome series may be local work.⁵³

Here should be mentioned that Ibn Hauqal, who wrote in 977/8, relates the following concerning the city of Tunis⁵⁴:

"The most beautiful *objets d'art* are made there, and beautiful pottery (*khazaf*) resembling that imported from Iraq."

⁴⁸ *Ibid.*, p. 22, Pl. 12, 11 and 20, and pp. 23 f., Pl. 15.

⁴⁹ *Ibid.*, p. 11, Pl. 2, 5.

⁵⁰ *Ibid.*, p. 25, Pl. 19.

⁵¹ G. Marçais, *Les faïences à reflets métalliques de la Grande Mosquée de Kairouan*, Paris, 1928, p. 20, fig. 3.

⁵² *Ibid.*, p. 10.

⁵³ *Ibid.*, p. 17.

⁵⁴ Ed. M. J. de Goeje, *Bibliotheca geographorum arabicorum*, II, Leyden, 1872—73, p. 49. — Cf. G. Migeon, *Manuel d'art musulman*, 2nd ed., Paris, 1927, II, p. 275.

Tunis and not Qairawan was the real political centre of Ifriqiya during the Aghlabid period, and occasionally it was even the seat of Government, where the Emir has his residence. It is thus not entirely impossible that the potter from Baghdad — if we are to trust the text on this point — worked at Tunis, and not at Qairawan. But *if* he worked at the last-mentioned place, it is reasonable to suppose that the activity he established there was transferred to Tunis, which place was for about a century (1059—1157) in the hands of a petty dynasty, the Banu Khurasan, who had conquered the city from the Zirids, the rebellious lieutenants of the Fatimids after the conquest of Egypt.

It is very likely that most of the lustred pottery found at Qal'at Bani Hammad was made at Tunis, and that it was from here that the art of making such pottery was transmitted to Spain, which country in the 10th century — witness the finds from Madinat al-Zahra — had to import that highly estimated ware from Baghdad. This does by no means exclude the possibility that Egyptian potters might have made, towards the end of the 12th century, a contribution to the evolution of lustred pottery in Spain.

The sale and store of *loza dorada* is mentioned in a document written in 1069 by a Moslem resident of Toledo.⁵⁵ Al-Idrisi, who wrote in 1154, says about Catalayud, in Aragon: "Here is produced the gold-coloured pottery which is exported to all countries." In 1350 Ibn Battuta makes a similar statement about Malaga, the 'golden' pottery made at that place (whose name is marked on the base of a bowl in the Islamic Department of the Berlin Museums)⁵⁶ having been mentioned already by Ibn Sa'id (d. 1274 or 1286). A third centre of manufacture, that was going to take the lead, was Valencia, and a small place in its vicinity, Manises. It must have been from Spain that the art of producing lustre was transmitted to Italy, where it was brought to such perfection by Georgio Andreoli (d. 1553), who worked at Gubbio from about 1490. Numerous fragments of Moorish lustre pottery have been found at Fustat; they were imported at a time when the kilns in which such pottery was made there had long ceased to exist.

There were several causes that led to the extinction of the manu-

⁵⁵ For this paragraph, see Lady Evans, *Lustre Pottery*, London, 1920, pp. 49 f.

⁵⁶ E. Hannover, *Pottery and Porcelain*, London, 1925, I, pp. 85 f., fig. 87.

facture of lustred pottery, and glass, in Egypt. One of these, and perhaps the most important, was the destruction of Fustat by fire, ordered by the always intriguing Fatimid General and Vizier Shawar, in 1168, at a moment when his forces were besieged in Cairo by the Franks, his allies of yesterday. However, A. J. Butler has pointed out that "the effect and the extent of the great fire have been exaggerated", and that the fire "swept over a large part of the city of Misr, but not all".⁵⁷ A second contributing cause was the definite fall of the Fatimid dynasty through the death of al-Adid, in 1171, the year after the death of Shawar and the defeat of the Franks by the army of Saladin, who was already at that time the real ruler of Egypt. The austere character of that Orthodox Sunnite of Kurdish race, and the fact that he, being almost always with his army, spent little time in his Egyptian capital, may be regarded as a third cause to the cataclysm that befell the lustre industry in Egypt.

The simultaneous rise of the same industry in Syria, or rather Upper Mesopotamia, and in Persia, as well as in Spain, has led to the hypothesis that Egyptian lustre painters, finding no work at the Aiyubid court, had to make their fortunes abroad.⁵⁸ In pottery produced at Raqqa, situated on the Euphrates about 180 km. east of Aleppo, and at Rusafa, in the neighbourhood of Raqqa, the lustre is of a characteristic dark olive brown colour, which is rarely seen elsewhere; it is often combined with blue ornament and is painted on glazes that are, as a rule, less opaque than the glazes used in Egypt.⁵⁹ Pigments of lustre type are occasionally used in enamelled and gilt glass of the 13th century, probably produced at Aleppo. The under-glaze painting in manganese colour that — perhaps as a result of Syrian influence⁶⁰ — had existed together with painting in lustre (but never combined on the same specimen) in a Late Fatimid workshop referred to above,⁶¹ was further developed in Syria, where the manganese was replaced by a deep black, and it was not until the

⁵⁷ *Op. cit.*, p. 53, note 2; cf. p. 161.

⁵⁸ See, e. g., A. Lane, *Archaeologia*, LXXXVII, 1938, p. 29.

⁵⁹ R. L. Hobson, *British Museum. A Guide to the Islamic Pottery of the Near East*, London, 1932, pp. 29—31.

⁶⁰ See A. Lane, *loc. cit.*, pp. 37 f., reviewed by Florence E. Day, *Ars Islamica*, VI, 1939, p. 188.

⁶¹ Late specimens of this under-glaze painted Egyptian ware have been found in Syria, at Mina (A. Lane, *loc. cit.*, p. 60, fig. 9) and Ba'albakk (F. Sarre, *Keramik*

end of the 13th century that the Syrian pottery with ornament painted under a silicious glaze, generally crackled and highly transparent, could be successfully imitated in Egypt.

However, I am inclined to think that lustred pottery had to some extent been produced in Syria (the name again taken in its widest sense) already a century before the fall of the Fatimids, and that the first centre of production was Balis (Old Maskana), situated on the Euphrates, half-way between Aleppo and Raqqa.⁶² It would be tempting to guess that the painter Husain al-Shami ('the Syrian'), who worked in Egypt under the influence of the great Sa'd, brought the art of lustre-painting back to this native country. However that may be, his name warrants the existence of Syro-Egyptian relations in the field of pottery during an advanced part of the 11th century.

As far as Persia is concerned, the problem is still more delicate and difficult to solve, and I will again allow myself a long quotation from A. Lane.⁶³

"The wares found in excavations at Raiy include splendid pieces of two distinct cultural periods; the first group was undoubtedly imported from Mesopotamia during the ninth and tenth centuries, while the second includes the "*minai*" and later lustre-wares which are usually attributed to the twelfth and thirteenth centuries. During the last few years, repeated attempts have been made in certain quarters to push the dating of these wares back into the eleventh century, but on evidence which cannot command universal respect. It is significant that on the list of dated Persian lustre-pieces collected by Dr. Kühnel, the earliest was inscribed with a date corresponding to A. D. 1179, and the others combine to show that the finest quality was produced early in the thirteenth century. At present the evidence suggests that, with the exception of the Samarqand wares, Persian pottery did not rise to very great heights until the potters of Mesopotamia and Fatimid Egypt had successively led the way; indeed, the renaissance of the art in Persia may have been in large part due to

und andere Kleinfunde der islamischen Zeit von Baalbek, Berlin and Leipzig, 1925, p. 14, fig. 43).

⁶² This hypothesis is not based upon the material (unknown to me) found at the excavations recently undertaken on that site, but on some bowls shown to me by Syrian dealers.

⁶³ *Transactions of the Oriental Ceramic Society*, 1938, pp. 39 f.

Egyptian workmen who sought their fortunes abroad after 1170, when the Fatimid dynasty collapsed."

Here again I must warn against regarding that year as a *terminus a quo* for a possible Fatimid influence.⁶⁴ Further, I will remind of how much Fatimid art itself owes to the art of Persia,⁶⁵ but for all what there may be of exaggeration in M. Lane's statement his theories must as a whole be hailed as a sound reaction against exaggerations of a graver kind for which others are responsible.

⁶⁴ Some lusted bowls that A. U. Pope describes in *A Survey of Persian Art* (Oxford, II, 1939, V, 1938) as made at Raiy during the 11th or early 12th century, have marked affinities with vessels of the same kind made in Egypt during the 11th century, not in the 12th. For Pope, II, pp. 1550 f., V, Pls. 632 and 633, B, cf. C. J. Lamm, *al-Muqtataf*, May, 1937, Pl. facing p. 567, to the left ('School of Muslim'); Pope, II, p. 1552, V, Pl. 633, A, cf. Muhammad Zaki Hasan, *op. cit.*, p. 165, Pl. 32, to the right; Pope, II, p. 1551, Pl. 634, A, cf. *La céramique égyptienne*, Pl. 42, two fragments, the upper one of the 'School of Sa'd', the lower signed by that master ('Ali Bey Bahgat and F. Massoul, *op. cit.*, p. 54, Pl. 9, 2 and 2 bis). Now, if one rejects Pope's early datings, while accepting Lane's hypothesis, how could one explain that the Egyptian potters arriving at Persia just after 1170 worked in a style that belonged to the time of their great-grandfathers — that of their own time being much inferior. The scalloped design on the margins of the Persian bowls is rather an old-fashioned trait that disappeared in Egypt towards the end of the 10th century. The Persian bowls nevertheless betray a freer and more advanced draughtmanship than the Egyptian specimens. I am aware that all this argumentation does not lead to a conclusion, but it might still be of some value, and I am ready to admit that I feel rather disinclined to give a verdict on these entangled subjects.

⁶⁵ Out of the great wealth of material I will select one example, the fragment of a lusted bowl in the Arabic Museum belonging to the 'School of Sa'd' and showing a spread-eagle, on the breast of which a woman(?) is represented (Bahgat and Massoul, *op. cit.*, Pl. F, 46). Compare herewith the fragment of a compound twill textile of wool and undyed cotton, in the same museum, which I have published, with references to further parallels (*Cotton in Mediaeval Textiles of the Near East*, Paris, 1937, pp. 34 f., Pl. 5, A), unfortunately without knowing about a Sasanian silver plate with a similar subject, published — with overwhelmingly learned commentaries — by Camilla Trever (*Nouveaux plats sasanides de l'Ermitage*, Moscou and Leningrad, 1937, pp. 28—38, Pl. 3).

CHAPTER IV

Enamelled and Gilt Glass of the 'Raqqā', 'Fustat', 'Aleppo' and 'Damascus' Groups: Finds from Ringstaholm, Hälsingborg and the Monastery of Vreta.

The fall of the Fatimids in the year 1171 has been of paramount importance to the development of Islamic art. For the art of Egypt it meant a decline which can only be explained by the theory that artisans left the country in order to work at foreign courts. The simultaneous rise of the arts and crafts at the courts of the Urtuqids (1101—1312), the Zankids (1127—1250) and the Abbasid Caliphs at Baghdad (devastated in 1258) favours the hypothesis of Fatimid influence on the art of Syria and Mesopotamia. As was demonstrated in the previous Chapter, the first appearance of lustred pottery at Raqqā seems to coincide with the decline of the same technique in Egypt.

A parallel may be found in the field of glass. The first appearance of gilt and thickly enamelled glass¹ in the second half of the 12th century can only be explained if one supposes Egypt to have exerted such influence on the art of Syria and Upper Mesopotamia. The prototypes of this glass are to be found chiefly in Fatimid Egypt, and one would therefore be tempted to assume that country as the place of

¹ The account here made of this glassware is based upon a paper read at the second International Congress of Persian Art, London, 1931. I regret that due to economical reasons illustrations could be given of specimens found in Sweden only; in most other cases, as far as glass is concerned, the Reader will find a reference to my book *Mittelalterliche Gläser und Steinschnittarbeiten aus dem Nahen Osten* (cited '*Gläser*'), Berlin, 1929—30. The first volume of this work contains, on pp. 243—54, a synopsis of the subject of enamelled and gilt glass of the 12th—15th centuries, while excerpts from mediaeval texts touching upon the subject are given on pp. 491—7. References will only be given in the following for such texts as are not comprised among these excerpts. — See also G. Schmoranz, *Altorientalische Glasgefäße*, Vienna, 1898 (English ed., Vienna and London, 1899).

origin of this phase in the evolution of enamelled glass, were not this theory excluded for several reasons. The key to the solution is afforded by a fragmentary bottle in the British Museum, made for 'Imad al-Din Zanki II (1171—97).'² Its decoration shows very great similarity to that of some fragments of white glass paste found at Fustat,³ and consists of gold with the inner design scratched by means of a needle, a technique also found in some of the oldest enamelled and gilt glasses belonging to the class with which we are here concerned; its occurrence in Fatimid lustre-painting has already been discussed.

Although there is no literary evidence of the manufacture of glass at Raqqa, one has strong reasons to assume a large group of enamelled and gilt glass to have been made at this place. The shapes of these glasses are identical with those of undecorated glass vessels found on the same and some other sites in Northern Syria and North-Western Mesopotamia. Numerous fragments of this glassware have been found both at Fustat, Hama and Raqqa. From the last-mentioned place are some very interesting fragments in the Islamic Department of the Berlin Museums and the Museum of Antiquities at Istanbul; some of them have representations of figures and animals,⁴ while others show rows of enamelled beads bordering inscriptions of benevolent purport, executed in gilt lettering.⁵ Such inscriptions, most of them only gilt, but sometimes enamelled or executed in gold with thick, red outlines, are very common in the 'Raqqa Group', whereas eulogistic inscriptions, so often seen in enamelled glass of other types, are here very rare.

The same combination of gold inscriptions and enamelled beads is found on the 'Goblet of the Eight Priests' in the Museum at Douai, as well as on the one from Châteaudun (wrongly supposed to have belonged to Charlemagne), now in the Museum at Chartres; they were probably made about 1190 or 1200, respectively,⁶ and are thus the oldest of the enamelled glasses of the type treated in this Chapter that have been preserved in European church treasures. The origin of the art of beaded

² C. J. Lamm, *Gläser*, I, pp. 122 f., II, Pl. 42, 4. The vessel might also have been made for a grandson of Zanki II, 'Imad al-Din Shahanshah b. Muhammad, who reigned in 1219 only.

³ *Ibid.*, I, pp. 126 and 132, II, Pls. 45, 1 and 2, and 46, 26.

⁴ *Ibid.*, I, pp. 275 and 277, II, Pls. 96, 4, and 97, 1.

⁵ *Ibid.*, I, p. 277, II, Pl. 97, 2 and 3.

⁶ *Ibid.*, I, pp. 274 f., II, Pl. 96, 1 and 3.

ornamentation can be illustrated by a group of Syrian glass vessels with pellets of turquoise blue enamel on studs of the same noncoloured metal as the vessel itself. Several bottles of this type were found in South Russia; a fragment from Egypt, in the Ashmolean Museum, Oxford, shows such ornament combined with gilding.⁷

Thus may be explained the problem of the *direct* origin of two of the main elements of enamelled and gilt glass, viz., gilding and enamelling, of which the former seems to be connected chiefly with Egyptian, the latter with Syrian glass. The third element of decoration, the red colour used for outlines, is probably due to influence from Byzantine miniatures, or from polychrome Persian faience. The outlines used in earlier glass with cold painting are almost always executed in black or dark brown.

The destruction of Raqqa by Hulagu, the grandson of Chingiz Khan, in 1259, must have been a catastrophe to the glass factories of this city. The *positive* effect of the Mongol invasions on the evolution of enamelled glass can on the other hand firstly be seen in the fact that glass-painters must have fled from the devastated territories westwards, as did the metal-workers of Mosul, thereby strengthening the influence that Mesopotamian and Persian art had already exerted on the art of Syria and Egypt. The second effect was that Chinese art motifs were brought along with the Mongols, which eventually led to a revolution of the ornamental art of the Near East; but of such influence there are no traces on glass presumably made at Raqqa, and only a few in that made before the close of the thirteenth century in Syria Proper.

Directly connected with the 'Raqqa' glass is a small group executed in Syria by the Franks. This group will be discussed in the following Chapter.

Examples of a kind of glass presumably made at Fustat, where glasshouses are known to have existed during the Mamluk period, have not, as far as I know, been found outside Egypt. The only complete object in existence is a goblet in the British Museum, said to have been excavated at Quft, the ancient Koptos.⁸ The mouth is less flaring in goblets of the 'Fustat Group' than in such of 'Raqqa' type; the decoration is more uniform than in any other class of enamelled glass. Gilding

⁷ C. J. Lamm, *Le Monde Oriental*, XXV, 1931, p. 84, note 3, Pl. 4.

⁸ *Idem*, *Gläser*, I, p. 285, II, Pl. 103, 7.

is hardly ever used. Rows of beads, composed of flat tears of enamel, are common, as are friezes with anonymous eulogistic inscriptions in praise of the Sultan, placed on a background of debased scrolls and interrupted by medallions containing Mamluk coats of arms. All enamels, except the beads and the scrolls, have thick contours in red paint, closely resembling those in the 'Raqqa Group'. Within the 'Fustat Group' there is little evidence of a stylistic evolution of the different devices, a few of which have been borrowed from the 'Aleppo' and 'Damascus Groups'. Most of the 'Fustat' glass of this kind obviously belongs to the period covered by the twice interrupted reign of Sultan Muhammad al-Nasir b. Qalawun (1293—94, 1299—1309 and 1310—41); the oldest specimens seem to date from about 1270. When compared with other enamelled glass of the 14th century, the 'Fustat Group' is conspicuous by the absence of most of the ornamental devices characteristic of the Mamluk style, many of which are of Chinese origin.

A most interesting group is that of vessels made of opaque glass pastes decorated with gold and enamel which, except on bottles, are generally applied to both sides of the glass. The decoration of these vessels, of which so far only fragments are known, speaks in favour of a Syrian origin, although the existence of similar kinds of paste in Fatimid Egypt, discussed in the previous Chapter, might rather suggest Egyptian workmanship. Of paramount importance to the final solution of this problem is the fragment of a faience bowl of unknown origin, preserved in the Islamic Department of the Berlin Museums, which is of the very same style and technique as the pastes just referred to.⁹ The white colour of the clay inclines me to believe this bowl to have been produced in a Syrian kiln.

Complete examples of Syrian blue or manganese violet (purple) glass with decoration in gold and enamelling are extremely scarce. A small, defective bottle in the Islamic Department of the Berlin Museums consists of blue glass with a white 'fern' pattern dragged by a comb in both directions and pressed into the surface.¹⁰ The spaces between the white leaves of the 'fern' pattern are filled in with stars and scrolls, executed in gold. The same type of ornament sometimes occurs on glass where the 'fern' pattern, instead of having been made in the traditional

⁹ *Ibid.*, I, p. 296, Farbentaf. C, 6—9.

¹⁰ *Ibid.*, I, p. 292, Pl. G, 2.

way by means of strings wound round the vessel, is painted in white, lapis lazuli (azure) blue or turquoise blue enamelling, or in a combination of white and turquoise blue. This kind of workmanship marks a secondary stage of evolution and seems to belong chiefly to the second half of the thirteenth century. The lion passant used as a crest by Bai-bars I (1260—77) — and, it must be conceded, by other Oriental rulers too — occurs on examples of this ware.

The 'fern' designs are sometimes combined with eulogistic inscriptions similar to those seen on coloured glass on which arabesques predominate. A magnificent example of the latter is a blue vase in the private collection of the King of Italy, said to have been brought by Crusaders of the family d'Allinges from the East.¹¹ On the belly of the vessel, arabesques of a minute workmanship alternate with delicately designed Phoenix or Rukhkh birds. The eulogistic inscriptions, in Kufic and Naskhi, as well as the ornament, show great resemblance to similar motifs on the 'Barberini Vase' in the Louvre, a brass-work with silver inlay made for the Aiyubid Sultan al-Nasir II Yusuf, who reigned in Aleppo — where the metal vase seems to have been made — from 1237 to 1260, and in Damascus from 1250 to 1260.¹²

Aleppo and Damascus were the chief centres of Syrian glass manufacture during the 13th and 14th centuries. It is known from ancient sources that glass-workers from Armanaz, in the vicinity of Tyre, settled at a place near Aleppo which was given the same name of Armanaz, and where glasshouses still exist.¹³ The glass blown there was brought to Aleppo in order to be enamelled. Yaqut (d. 1229), relates that the sand from which glass was made in Aleppo was brought from the mountain of Bishr, on the border of the Syrian desert. Sa'di, in his *Gulistān*, completed in 1258, mentions a merchant who had the intention of bringing glass vessels from Aleppo to the Yaman, and Hafiz (d. 1389) refers to China's wine carafes and Aleppo's bottles, the names being here merely used to designate the costly material, porcelain or enamelled glass. Al-Qazwini (d. 1283) speaks with enthusiasm of the wonderful glass to be seen in a special bazaar at Aleppo, the memory of which is

¹¹ *Ibid.*, I, pp. 293 f., II, Pl. 110.

¹² G. Migeon, *Musée du Louvre. L'Orient musulman, Armes* (etc.), No. 88, pp. 23 f., Pl. 30.

¹³ Lieutenant Froment, *Syria*, XI, 1930, p. 288; J. Gaulmier, *Institut français de Damas. Bulletin d'Etudes orientales*, VI, 1936, pp. 53—9.

evoked by Hafiz-i Abru (d. 1430), who drew on older sources. Both authors tell that glass was sent from Aleppo to be offered as precious gifts. One manuscript of the Persian *Book of Jewels and Perfumes*, written by Abu-l-Qasim 'Abd Allah b. 'Ali b. Muhammad b. Abi Tahir, a potter from Kashan, in 1300/1 (cf. Chapter III), mentions the use of lapis-lazuli (azure) in Aleppo glass, confirmed in our time by analysis,¹⁴ and the Persian geographer al-Musta'fi writes in 1339—40 that "the best glass-founders are those of Aleppo. The glass bottles from here are perfectly transparent and very famous."¹⁵ The great period of the glass industry at Aleppo seems to have begun after the city had been ravaged by the hordes of Chingiz Khan in 1220/1; the industry must have suffered a great deal from the attack of the Mongols in 1259, although a treaty saved the city from total destruction.

The produce of Aleppo can not, at the present stage of science, be distinguished from that of Damascus, or other places of manufacture, by the chemical composition of the metal. The decoration of glass vessels belonging to the 'Aleppo Group' reveals strong Mesopotamian and Persian influence, which may be explained by the political conditions referred to previously. A prominent feature is the frequent use of figural motifs designed on a larger scale than on glass of the 'Damascus Group', and occasionally combined with architectural motifs. Favourite subjects are polo-players or falconers on horseback, and rows of differently coloured herons pursued by richly clad archers standing behind rushes near the conventionalized waves of a river. Sometimes one finds hares or gazelles chased by hounds, on a background of spiral scrolls. Most inscriptions bear eulogistic formulas of a uniform type; coats of arms do not appear before the time of Baibars I (1260—77); some scholars would probably ascribe to the first half of the 14th century some of the blazons appearing on glass of 'Aleppo' type which in the view of the present writer must be assigned to the last third of the 13th century.¹⁶

According to the technique, glass of the 'Aleppo Group' may be subdivided into different classes. In one of these much of the gilt

¹⁴ H. Ritter, J. Ruska, F. Sarre and R. Wunderlich, *Orientalische Steinbücher und persische Fayencetechnik*, Istanbul, 1935, p. 35; the lapis lazuli is also said to be used for Indian(?) glass globes.

¹⁵ *Tuhfat al-nuzzar*, transl. G. Le Strange, Leyden, 1919, p. 197.

¹⁶ See L. A. Mayer, *Saracenic Heraldry*, Oxford, 1933.

design is placed upon a thick layer of red enamel, and inscriptions are frequently executed in gold on blue or in black on white; the latter is the case of a goblet in the Cassels Museum.¹⁷ The upper border here contains floral designs, in enamel superimposed on enamel, a process rare, but not unparalleled, among other glass of this subdivision. The falconers seen on varicoloured horses below call to mind the horseman, perhaps a polo-player, represented on the fragment of a goblet in the State Historical Museum, Stockholm (*Pl. XVIII, 2*), found during excavations undertaken in the years 1910—12 by Dr. O. Janse in the ruins of Ringstaholm (Ringstadaholm) Castle, situated on a small island in the Motala River, within the parish of Östra Eneby, in Östergötland.¹⁸ This castle, that seems to have been erected in connection with the rise of the neighbouring Norrköping, flourished particularly during the 14th century and was destroyed by Sten Sture the Elder, the Regent (*riksföreståndare*) in Sweden (1470—97), in the year 1470. The rider depicted on this fragment is, like the mount, represented on a blue background in thick, red enamelling that has once been entirely covered with gold ('gold in relief'). The cavalier bears a bandoleer, and fluttering bands are attached to his headgear, nothing of which has been preserved. This fragment should be dated to about 1260; its decoration is reminiscent of the polo-players on coloured horses to be seen on one of the two famous goblets of enamelled glass in the Green Vaults in Dresden; this goblet is placed in a German mounting of silvergilt, the older parts of which date from about 1400, the younger from the 16th century.¹⁹ The rim of the glass here has an inscription in gold and blue, the band below shows a similar decoration applied on a surface painted red from behind, a technique typical of the most significant category of 'Aleppo' glass, in which also colours of lustre type sometimes occur. The same goblet in Dresden may be assigned to the third quarter of the 13th century; it should be compared with a brass basin inlaid with silver in the collection of the Duke of Ahrenberg in Brussels, made for al-Salih Najm al-Din Aiyub, Sultan of Egypt and Damascus from 1240 to 1249.²⁰ The rendering of the mounted figures,

¹⁷ C. J. Lamm, *Gläser*, I, p. 304, II, Pl. 115, 4.

¹⁸ *Ibid.*, I, p. 302, II, Pl. 114, 5; C. R. af Ugglas, *Lödöse (Gamla Lödöse). Historia och arkeologi*, Gothenburg, 1931, p. 547, note 3.

¹⁹ C. J. Lamm, *Gläser*, I, p. 332, II, Pl. 129, 3.

²⁰ H. Glück and E. Diez, *Die Kunst des Islam*, Berlin, 1925, p. 581, fig., p. 447.

and of the trees and shrubs, is absolutely the same on the Dresden goblet and the Brussels basin; a further parallel is afforded by an undated Galen manuscript in the National Library at Vienna, a product of the 'Abbasid' miniature school betraying influence from miniatures produced at Baghdad.²¹ Such connections between Baghdad art and glass of the kind now being treated have led some scholars to the supposition that this glassware was manufactured in Baghdad. This opinion has been supported by Ibn Battuta's record of glass vessels from Iraq seen by him in the cities of Antaliya and Khwarizm, in the years 1330 and 1335. I am inclined to regard this statement as to the origin of these glasses as a mistake of the Arabic author, due to the fame of the Iraqi cut glass of the 9th and 10th centuries.

The 'Saljuq' style of art during the late 12th and the 13th century is, as has been often observed, rather uniform in the different Islamic countries of the Near East. Thus one finds close parallels to such representations of horsemen as those already mentioned, on the polychrome 'Minai' ware of Raiy (Rhages) and Kashan, as, for example, on a jug in the Metropolitan Museum in New York.²² The representation of a man with a goblet in his right hand, which appears on a plate from Rusafa or Raqqa belonging to Mr. A. Garabed in London, affords another example of the same figural style.²³ The dotted pattern on the garment is sometimes seen on glass of the 'Aleppo Group', while the headdress with a conical ornament in the centre, which is typical of figural representations on 'Raqqa' glass, only occurs on the older examples of glass of 'Aleppo' type, being later replaced by the turban as a headdress for men, except in a few representations of princes.

The well-known pilgrim's bottle from Würzburg, in the British Museum, belongs to the very same type of glass, but here the figural motifs, limited to the narrower sides of the vessel, are dominated by arabesque designs of rare beauty, partly on a blue ground.²⁴ Some of the arabesques terminate in animal's heads, a motif derived from

²¹ *Ibid.*, p. 596, fig. p. 503; K. Holter, *Die islamischen Miniaturhandschriften vor 1350*, Leipzig, 1937, pp. 15 f.

²² M. Dimand, *Metropolitan Museum of Art. A Handbook of Mohammedan Decorative Arts*, New York, 1930, p. 132, Pl. 2.

²³ *Burlington Magazine*, LVII, Dec., 1930, Advertisement Supplement, Pl. 28.

²⁴ C. J. Lamm, *Gläser*, I, pp. 327 f., II, Pl. 126, 18.

representations of the talking tree Waq-Waq and met with also on the Ahrenberg basin. On a glass tray in the Metropolitan Museum in New York,²⁵ arabesques fill the interstices between medallions enclosing interlaced star designs, so often to be seen on woodwork and bronze doors of this period. Particularly bold is the design of the arabesques that occupy the entire surface of the 'Luck of Eden Hall', a glass goblet known to every Englishman²⁶; this goblet, in a most perfect state of preservation, is now exhibited in the Victoria and Albert Museum, London; it dates from about 1240 and is contained in a leather case of the 14th or, perhaps, the 15th century.

Before leaving the subject of 'Aleppo' glass, I should like to draw attention to two datable objects made at Hama — where numerous fragments of enamelled and gilt glass have recently been excavated —, objects which present further parallels to 'Aleppo' glass, viz., a marble basin in the Victoria and Albert Museum, bearing arabesque scrolls interwoven with scalloped bands and an inscription containing the date 1278,²⁷ and, further, the Mihrab erected by al-Muzaffar II Taqi al-Din in the Mosque of Nur al-Din at Hama, where he reigned from 1224 to 1244. E. Herzfeld points out the Hellenistic origin of the frieze with animals on a background of continuous spiral scrolls, which forms part of its decoration.²⁸ A glass goblet with ornament of the same kind, combined with arabesques ending in animal's heads, has been acquired by the Neuss Museum from Baron von Brenken of Wewer Castle; it is contained in a leather case dating from the 14th or 15th century.²⁹

It is not possible in every instance to distinguish glass of the 'Aleppo Group' from such belonging to the 'Damascus Group'. The connection between both groups is clearly illustrated by a bottle in the Arabic Museum of Cairo, made for al-Nasir II Yusuf, the Sultan of Aleppo mentioned above, who established his rule in Damascus in 1250 and died in 1260.³⁰ This bottle forms the pivot for the dating of early enamelled glass. The Museum of Archaeology, Toronto,

²⁵ *Ibid.*, I, pp. 345 f., II, Pl. 139, 1.

²⁶ *Ibid.*, I, p. 329, II, Pl. 127, 2.

²⁷ E. Kühnel, *ap.* A. Springer, *Handbuch der Kunstgeschichte*, VI, Leipzig, 1929, p. 466, fig. 483.

²⁸ *Jahrbuch der Preussischen Kunstsammlungen*, XLII, 1921, pp. 134 f., fig. 9.

²⁹ F. Rademacher, *Pantheon*, II, Nov., 1929, pp. 522—4 with 2 figs.

³⁰ C. J. Lamm, *Gläser*, I, p. 347, II, Pl. 140, 2.

possesses two bottles of a similar type with ornament of a more pronounced 'Aleppo' type; both vessels were acquired in China.³¹

It does not seem unlikely that the first production of enamelled and gilt glass at Damascus was due to the political circumstance just referred to, viz., the inclusion of this city within the territory ruled by al-Nasir, but it is more than probable that undecorated glass had been manufactured there already at an earlier date. When Hulagu conquered Aleppo, al-Nasir fled to Damascus, where he was imprisoned and shortly afterwards killed by the invaders. A contemporary Armenian historian, Kirakos of Gandzak, tells that Damascus, when the city surrendered unconditionally, in March, 1260, was treated with less ruthlessness than Aleppo.

When the Mamluks of Egypt shortly afterwards conquered Syria, a new brilliant period began for Damascus, where Baibars I (1260—77) often had his residence. The plundering of Damascus by Tartar hordes under the command of Ghazan Mahmud Khan, in the year 1300, had only a passing effect upon the prosperity of that city. Literary records referring to the manufacture of gilt and enamelled glass at Damascus are almost all of the 14th century. An Italian pilgrim, Frescobaldi, who visited Damascus in 1384, relates that all the artisans of that city were organized in guilds similar to that of the weavers in Florence. The artisans could not change their trades, and the son was obliged to continue in that of his father, "and this", he argues, "is the reason why the work is executed there in a better, more refined and beautiful way than in any other place". Another pilgrim, Niccolò da Poggibonsi, who travelled in Syria 1345 and the following year, mentions that a street not far from the Great Mosque had been given the name 'the Street of the Glassmakers'; it was also referred to by Ibn Battuta, who in his work *Tuhfat al-nuzzar*, completed before 1356, relates that "the manufacturers of wonderful glass vessels" had their workshops in a street near the Great Mosque.³² Symon Simeonis, whose pilgrimage took place in 1325 and the following years, says that "the most admirably ornamented glass is made at Damascus in great quantities". A similar statement is recorded by Georgio Gucci, who visited Syria and the Holy Land in the years 1384—85. Al-'Umari, who wrote about

³¹ *Ibid.*, I, pp. 346 f., II, Pl. 140, 1 and 3.

³² Ed. and transl. C. Defrémery and B. R. Sanguinetti, I, Paris, 1853, p. 208.

1337 and who died at Damascus in 1348, narrates that the richly ornamented glass manufactured there was exported to Egypt, Syria, Iraq and Asia Minor. The Oriental enamelled and gilt glass, so highly appreciated in mediaeval Europe, was known as "glass in the manner of Damascus". Sometimes one also finds the expression "Moorish glass", or "glass from overseas". Only one document of this period refers to an Alexandrian glass, but is not certain whether the 'triacler' — i. e., a receptacle for theriac, a panacea for all ills — so designated in an English royal inventory of the year 1399, was enamelled; if it was, it might have belonged to the 'Fustat Group', or it was a Syrian glass shipped over Alexandria.

The temporary conquest of Damascus by Timur, in December, 1400, was nothing less than a catastrophe to the glass manufacture in Syria, and de Clavijo, whose embassy to Samarqand took place between 1403 and 1408, informs us that glass-workers were among the artisans brought by Timur from Damascus to his Turkistan capital. Bertrandon de la Brouquière says nothing about glass-making in the description he gives of the arts and crafts of Damascus, which city he visited in 1432; still the industry could not have entirely perished as a decree, probably of the year 1453, carved in stone in a Mosque near Bab al-Faraj, not far from the Citadel, concerns the abolition of taxes paid by glass-foundries.³³

The enamelled and gilt glass which may be assigned to Damascus, can on stylistic evidence be divided into two groups, the first of which may be dated to the period about 1250—1310, while the second, which is characterized by strong Chinese influence, mainly belongs to the 14th century, the chronological limits between the groups not being sharply marked. In a previous work on Islamic glass, I have called the first group the 'Damascus Group with sparse enamelling and small figural representations', in contrast to the 'Aleppo Group', where the enamelling is richer and the figures, as has been already stated, are drawn on a larger scale. Technically the 'Damascus Group' is very akin to the 'Aleppo Group', and, in both, the red outlines are very thin, this in contrast to the 'Raqq'a' and 'Fustat Groups' with their thick contours. The 'Damascus Group' is comparatively homogeneous;

³³ J. Sauvaget, *Institut français de Damas. Bulletin d'Etudes orientales*, II, 1932, pp. 32 and 40.

but a close study of the ornamentation of the complete vessels and numerous fragments belonging to this group has made it possible to establish a chronological arrangement of the material. It may be said in a general way that the development proceeds from great precision in the older work towards a more impressionistic, almost calligraphic, drawing of the ornament, in later execution.

Lace or filigree patterns are typical of the 'Damascus Group', as are revelling scenes, fish placed herring-bone fashion, fret motifs, arabesques and multi-coloured festoons. Numerous examples of goblets belonging to the 'Damascus Group' have been found in Tartar tombs of South Russia. Drinking-cups are known to have played a great part in the ceremonies of Mongol and Turkish peoples, and this is reflected by the way in which goblets are so frequently held by the figures represented on enamelled glasses.

The preserved vessels afford a picture of how glass of 'Damascus' type was distributed over the entire Old World. Judging from these vessels, the Tartars must, on the whole, have been the less pretentious buyers. A splendid example of this ware is, on the other hand, a bottle discovered in China and acquired by the Islamic Department of the Berlin Museums from the collection of Count Pourtalès at Leningrad.³⁴ The polo-players round the waist of the optically fluted body serve to remind one of similar representations found within the 'Aleppo Group', but the manner in which they are placed directly on the glass, and not within a border, is quite foreign to the style of 'Aleppo' glass. Another splendid 'Damascus' vessel is the pilgrim's bottle in St. Stephen's at Vienna.³⁵ The interstices between the large medallions of the belly are here filled with arabesque patterns, where the combination of colours that was to become typical of glass of the 14th century already appears in its final form. The curious figural representations on the neck may perhaps be interpreted as jinnees, and also belong to the *repertoire* of the designs of 'Damascus' glass. Another famous and characteristic example of this group is a bowl from the Ch. Schefer Collection in Paris, at the Metropolitan Museum in New York³⁶; with its tore-like rim and its high, fluted foot, which has a

³⁴ C. J. Lamm, *Gläser*, I, p. 368, II, Pl. 158, 2.

³⁵ *Ibid.*, I, pp. 368 f., II, Pl. 158, 3.

³⁶ *Ibid.*, I, pp. 373 f., II, Pls. 158, 6, and 160.

swelling in the middle, it is of a shape that seems to have been specially favoured by Persian buyers. Animal friezes similar to those bordering the poetical inscription and revelling scenes round the waist of the bowl from the Schefer Collection, are found on several brass objects inlaid with silver, such as an ewer in the Louvre,³⁷ made in Damascus by an artisan of Mosul origin for the Sultan al-Nasir II Yusuf, in 1259, one year before the latter was captured by the Mongols.

To the following decades, viz., the period about 1260—80, I would assign the twenty-one fragments of the vessel of optically fluted glass (*Pl. XIX*) that was found by Dr. T. Mårtensson during excavations in the keep Kärnan, the sole remaining part of the mediaeval castle of Hälsingborg, opposite Helsingör.³⁸ Seventeen of the fragments were discovered in 1925, the others a few years later; they were found among filling material that had been placed on top of the vault of the third floor, the construction of which must on account of the discovery of a coin dated 1481 have taken place subsequent to this year. The fragments, now preserved in the Hälsingborg Museum, seem to have belonged to a basin or, perhaps, to a large bottle. The diameter of the vessel has been about 18 cm. Its widest part is engirdled by a frieze containing a revelling scene executed in gold and outline red with minute touches of red, white, yellow, yellowish green and blue enamelling. The lower curve is encircled by a three-stranded guilloche worked in the same mediums, while the arabesques and knot designs that are distributed over the space comprised between the frieze and the guilloches are in gold and outline red only.

About 1280 a technical change was gradually introduced in the decoration of enamelled and gilt glass. Enamelled ornament which was before, in the 'Aleppo' as well as in the 'Damascus Group', outlined in gilt only, now receive an outline also in red, so that the gold constitutes a band round the enamelled form. Turquoise blue enamelling becomes extremely rare, and various floral and foliage

³⁷ G. Migeon, *op. cit.*, No. 89, p. 24, Pl. 31.

³⁸ T. Mårtensson, *Hälsingborgs Dagblad*, Dec. 13, 1925, *Söndagsbilaga*, p. 1 with fig.; *idem*, *Hälsingborgs Museum. Redogörelse för verksamheten år 1925*, pp. 2 f., fig. p. 4; *Svenska Dagbladet*, April 4, 1926, p. 8; G. Munthe, *Islams konst*, Stockholm, 1929, p. 147, fig. p. 146; C. J. Lamm, *Gläser*, I, p. 369, II, Pl. 158, 7; C. R. af Ugglas, *op. cit.*, p. 547, note 3; T. Mårtensson, *Hälsingborgs slott under medeltiden*, Hälsingborg, 1934, p. 94, fig. 99.

patterns, some of which obviously belong to the forms introduced by the Mongols from China, now make their first appearance.

This stage in the evolution of Syrian glass is illustrated by the fragment of a vessel, presumably a goblet, of thick glass (*fig. 8, Pl. XXI, 1*), found at the Monastery of Vreta, in Östergötland. As a great number of fragments of glass goblets belonging to the 'Syro-Frankish Group' were found during the same excavations, the entire find will be discussed in the next Chapter, devoted to that type of glassware. The fragment here referred to has arabesques in gold and outline red with leaves enamelled in red and white, or in green and yellow, the usual combination of colours. I would suggest the decade 1280—90 as the most probable date.

In the 14th century the Chinese influence on enamelled glass was not limited to single details, but the entire style of the design suggests a tendency towards naturalistic and calligraphic forms of a Chinese character, even in such cases where the ornament itself can not be considered as of Chinese origin. This may be exemplified by the vine ornament, which played such a prominent part in the decoration of that period. Mamluk heraldry, sometimes to be found on glasses that, according to my view, may be attributed to the second half of the 13th century, often appears during the 14th century; but it is obvious that, in glass of Syrian type (as distinct from the 'Fustat Group'), such arms were now placed generally on more pretentious objects, such as mosque lamps and large bottles, not so much on goblets which, during this epoch, with some prominent exceptions, show an inferior quality of design and execution. In many cases the entire decoration is limited to 'filigree' borders round the rim and over the foot with its 'kicked-in' bottom.

As is well known, numerous glasses datable by their inscriptions have been preserved from this period.³⁹ In contrast as regards glass of the older groups, where the datable inscriptions are extremely rare, it is therefore possible to establish within this class a chronological order primarily based upon datable inscriptions. Though being conscious of the schematic character of such a system of grouping, I

³⁹ C. J. Lamm, *Gläser*, I, pp. 424—83; G. Wiet, *Catalogue général du Musée arabe du Caire. Lampes et bouteilles en verre émaillé*, Cairo, 1929; *idem*, *Bulletin de l'Institut d'Égypte*, XIV, 1931—32, pp. 117—26.

have in a previous work divided the material into three groups, which I have called the 'Nasir', the 'Hasan' and the 'Barquq Group' after the names of three Sultans for whom mosque lamps of quite distinct design were made, many examples of which are preserved in the Arabic Museum at Cairo and elsewhere. The glass globes that connected the chains of such lamps have only in some few cases been preserved.

A lamp in the Metropolitan Museum of New York, made for the convent founded by a certain Karim al-Din — probably identical with an emir of that name who is mentioned for the last time in 1323 — bears in the upper inscription the name of Muhammad al-Nasir, who died in 1341.⁴⁰ The rich floral and foliated design of the borders, the blue-dotted vine scrolls on blue ground placed on the neck, the medallions containing serrated foils or Chinese lotus flowers, and the fretwork with its central stars on the foot, are worthy of note. Birds on the wing among foliage is another motif characteristic of the 'Nasir Group'; it is always executed in gold and outline red only. Within the 'Hasan Group' the birds are of a very debased design, having often 'degenerated' into fish shape; and in the 'Barquq Group' the same motifs, now entirely unintelligible, have eventually been replaced by scrolls.⁴¹

The gilt flowers and leaves set on a blue ground, which appear on a lamp in the Victoria and Albert Museum,⁴² are quite similar to such ornament on lamps dedicated, as their inscriptions show, to Sultan Hasan and made for his Madrasa, which was constructed in Cairo in the years 1356—63; most of these lamps are now preserved in the Arabic Museum at Cairo. This kind of Chinese ornament is well known in all branches of Islamic art of the 14th century.

⁴⁰ C. J. Lamm, *Gläser*, I, No. 30, pp. 435 f., II, Pl. 199, 1.

⁴¹ The study of such series of dated objects is of great value as it affords a means of checking the validity of the so-called 'typological method', in the elaboration of which Swedish archaeologists, such as O. Montelius, took great part. This method is not an archaeological panacea, but this is no reason why it should now be entirely abolished as a reaction against certain exaggerations made in the use of it. Created at a time marked by the evolution of natural science, it is based upon the assumption that also the creations of man are regulated by certain laws. Such an assumption is a *conditio sine qua non* for the existence of disciplines such as archaeology or history of art.

⁴² C. J. Lamm, *Gläser*, I, No. 110, p. 454, II, Pl. 193, 3.

It is not surprising that the Chinese character of the decoration should be specially marked in 14th century Syrian glass found in China as, for instance, a pear-shaped bottle preserved in the collection of the Countess de Béhague in Paris.⁴³ Here one finds, on the broad shoulder, representations of dragons among Chinese cloud bands, while the bordering friezes contain the bird patterns so often seen on glass of the 'Nasir' and 'Hasan Groups'. The rather hasty execution of the details speaks in favour of a date as late as about 1360. Of slightly earlier date is a bottle of the same shape in the Museum of History of Art at Vienna.⁴⁴ On the tall neck are Chinese phoenixes, on the shoulder beautiful arabesque medallions between spaces with a vine pattern, all contained within interlaced, angularly plaited bands. In the zone round the belly is the representation of a battle scene, the execution of which has a pronounced Mongol character; it should be noticed that human figures are very rare on objects produced in Syria and Egypt during this period of orthodox Sunnism, and it is astonishing that this bottle was brought, a century ago, from Cairo; otherwise one would be inclined to regard such a vessel as a product designed for exportation to China or, perhaps, Persia.

In order to illustrate the last phase of the evolution of Syrian enamelled and gilt glass it might suffice to draw attention to the lamps made for the Mosque of Sultan Barquq, erected 1384—86 within the walls of Cairo. Most of these lamps are in the Arabic Museum. They show a rather stereotyped and rough, but sometimes coloristically impressive decoration. The main designs have often been copied from lamps made for the Mosque of Sultan Hasan, but in all these Barquq lamps certain details betray the true origin and date, clearly evinced by the inscriptions. Round leaves with an eccentrically placed smaller circle, from which the nerves radiate, are a safe sign of Barquq date.⁴⁵ In such foliage one discerns the utmost degeneration of the vine leaf device. Medallions often show gilt arabesques on a background in red or green painted upon the inside of the glass. The few lamps which remain from the first half of the 15th century also show rather debased designs.

⁴³ *Ibid.*, I, pp. 420 f., II, Pl. 187.

⁴⁴ *Ibid.*, I, p. 420, II, Pl. 186.

⁴⁵ See *ibid.*, I, No. 221, p. 480, II, Pl. 205, 3, a mosque lamp in the Palais des Arts, at Lyons.

It is not possible to state definitely that all the glass of the Chinese influenced style was manufactured at Damascus; but the technical homogeneity of the entire group makes it impossible to ascribe the different products to different schools. If the large number of lamps made for mosques in Cairo, such as those of Shaikhu, Hasan and Barquq, were manufactured on the spot, as many scholars have believed for reasons which are far from convincing, they must have been designed and worked by artisans of Syrian origin, probably from Damascus. As was already stated, there is but scanty literary evidence of glass-making in Aleppo during the 14th century; as for the glass-making at Hebron, for which there exist reliable records from the years 1345—46, 1449 and 1483, and which manufacture has continued to exist until our day, there is so far no means of connecting it with ancient glass vessels still extant, and it is anyhow not very likely that it comprised enamelled and gilt ware.

A late example of this type of glassware is a globe made to connect the chains of a mosque lamp.⁴⁶ This globe, distinguished by its yellowish metal, is preserved in the British Museum, as is also a glass bowl of amber-coloured metal, which shows in the centre a kneeling genius holding a flask, while the rim is bordered by a frieze with floral scrolls of a Timurid design.⁴⁷ I am strongly inclined to regard this object as the single example extant of the enamelled and gilt glass made at Samarkand during the 15th century, the literary record of which has already been mentioned.

It has been a matter of dispute as to whether or not enamelled and gilt glass was manufactured in Persia in the previous period. The majority of such glass excavated in Persia are obviously of Syrian workmanship.⁴⁸ A cup with high stem in the Eumorfopoulos Collection

⁴⁶ *Ibid.*, I, No. 224, p. 481, II, Pl. 195, 8.

⁴⁷ *Ibid.*, I, pp. 416 f., II, Pl. 182, 12.

⁴⁸ See C. J. Lamm, *Glass from Iran in the National Museum, Stockholm*, Stockholm and London, 1935, pp. 15 f., Pls. 46—8.

The following emendations should be made to the plates of this booklet in consequence of the observations of Mr. Robert J. Charleston and myself while studying the 'Hannibal Collection': Pl. 9, C: the lip does not belong to this flask; Pl. 9, F: this neck-piece properly belongs to a mould-blown flask of the type illustrated on Pl. 21, E; Pl. 11, C: this cup has traces of a Kufic inscription drawn in gold and reserved in a red ground, in 'cold' painting; Pl. 13, C: this handle properly belongs to the neck-piece Pl. 16, I, and the whole has been augmented by

in London⁴⁹ appears to be one of the few enamelled and gilt pieces of mediaeval glass that might be classified as Persian, a second one being a bowl shown by M. D. Kelekian of Paris at the Exhibition of Persian Art held in London in 1931.⁵⁰ Both vessels seem to date from the second half of the 13th century.

The enamelled and gilt glass made in Persia after the revival of glass-making under Shah 'Abbas the Great (1583—1627) differs considerably from glassware of the type just described.⁵¹ During the two centuries which separate the two groups an event had taken place that had completely changed the situation in regard to glass-making: the decline of the Syrian glass-manufacture about the year 1400 had been counterbalanced by the rise of the Venetian glass industry. The latter had even adopted the technique of enamelling and gilding with such success that by the end of the 15th century Venetian (and also Spanish)⁵² enamelled glass was being imported into the East. The evolution of

a large base fragment; Pl. 13, H: one fragment added; Pl. 13, M: probably inverted; Pl. 14, C: the foot has now been almost completed by the addition of four fragments; Pl. 14, G: inverted, forms the upper part of a lamp resembling K on the same plate, whose lip profile is similar to G; Pl. 17, A: fifteen fragments have been added, some of them having mould-blown ornament; Pl. 20, G: the vessel has had a handle; Pls. 21, I, and 22, B belong together; Pls. 25, D and E: inverted, belong to the lower parts of the vessels; Pl. 26, A and E are from the same bottle; Pl. 28, A and K—L are thumb-pieces; Pl. 28, B is from the base of a bottle; Pl. 39, I: the uppermost fragment should be moved towards the left so that the surfaces with diagonal hatching become connected; the fragments Pls. 41, A (date correct), and 43, A have been attached to each other, as have also the two fragments Pl. 44, A; Pl. 42, G: five more fragments have been added, and they belong to the front part of a vessel in the shape of a pig; Pl. 42, J: the foot is here almost completed by the addition of four fragments; Pl. 43, E: two fragments have been added; Pl. 46, C: to this belongs G on Pl. 48 (dating correct here) and two more fragments; Pl. 46, I: to this belongs N on Pl. 47; Pl. 47, F, G and H probably belong together, just as Pls. 46, D, and 48, C—F; Pl. 47, D is inverted.

⁴⁹ C. J. Lamm, *Gläser*, I, p. 374, II, Pl. 161, 2.

⁵⁰ *Idem*, in *A Survey of Persian Art*, III, Oxford, 1939, p. 2600, VI, 1939, Pl. 1448.

⁵¹ *Ibid.*, III, pp. 2602 f., VI, Pls. 1449—54.

⁵² E. Kühnel, *Ars Islamica*, VI, 1939, p. 176.

later Cypriote,⁵³ Persian and Indian⁵⁴ glass-making is undoubtedly largely due to the influence of this imported European glass. In Syria and Egypt the craft of glass-making did not entirely die out, but these late products have no outstanding artistic merit, although the shapes are often endowed with a certain grace.

⁵³ Coloured glass from Cyprus having the brilliancy of precious stones is known to have been used for the windows of Qasr Ablaq (the 'Striped Palace') at Damascus, erected for Baibars I (1260—77) by the architect Ibrahim b. Ghanaim (G. Wiet and L. Hauteœur *Les Mosquées du Caire*, Paris, 1932, I, pp. 126 f.).

⁵⁴ E. Dillon, *Glass*, London, 1907, pp. 343—7.

CHAPTER V

Enamelled Glass of the 'Syro-Frankish' Group: Finds from Högby (Öland), Old Lödöse, Lund and the Monastery of Vreta.

The type of enamelled glassware known as 'Syro-Frankish' was already cursorily mentioned in the preceding Chapter, sandwiched between glass of the 'Raqqā Group' and such belonging to the 'Fustat Group'. This position is significant of its place within the evolution of enamelled glass in the Near East; but as may be inferred from the term 'Syro-Frankish', it nevertheless stands apart from the other groups in which this glassware may be classified. Enamelled and gilt Syrian glass of every category was exported to the Occident; but whereas, within the other groups, these glasses in no way differ from the bulk of the production,¹ the Syro-Frankish glass was made by Europeans in their Syrian possessions, perhaps chiefly in order to be exported to the Occident, though it is dangerous to interpret in this way the circumstance that no examples of this glassware have so far been found in Syria (including Palestine).

There is obviously a parallelism between the 'Syro-Frankish Group' and the 'Fustat Group', which latter may hypothetically be assigned to the period 1270—1340. The influence of the 'Raqqā Group' on both is probably a consequence of the migration of artisans on the approach of the Mongols, who ravaged the city in 1259. The 'Syro-Frankish Group' (just as to a smaller extent the 'Fustat Group') is influenced also by glass of the 'Aleppo Group' produced about the middle of the 13th century, and it is thus reasonable to place its start at about 1260 (the fragmentary bowl reproduced on *Pl. XXIV*, 1, might be of a slightly earlier date).

¹ Only glass of the finest quality seems to have been exported to European countries.

A *terminus ante quem* for the dating of these glasses is August, 1291, by which time the Franks had lost the last portion of the conquests made by the Crusaders. The fall of Acre in May of that year had sealed the fate of the towns still retained along the coast, thus leading to the complete victory of the Mamluk army led by the Sultan al-Ashraf Khalil (1290—93).² Tyre was abandoned in May, Sidon and Beyrout in July. Tripoli had succumbed in April, 1289, Jaffa and Antioch already in 1268. On account of this, I hold it for improbable that the Syro-Frankish glass was made at the last-mentioned places. Perhaps it is more reasonable to suppose that it was produced at Acre, or perhaps at Tripoli or Tyre; at these places, as well as at Antioch, the manufacture of glass — as well as the trade in the product, including the shipping — was by the 12th century (and certainly also before and after that time) to a large extent in the hands of Jews.³ However, the specialities of the Syrian glasshouses along the coast were (as mentioned in a previous Chapter) objects of *verroterie* and glass worked on the wheel; and none of the various categories of gilt and enamelled glass of purely Islamic type (it may be taken for granted that the glass produced by the Jews was on the whole Moslem in style) can be attributed to these ancient centres of glass manufacture. One of the arguments put forward against an attribution of the majority of the glass here called 'Syro-Frankish' to Syria, and in favour of a Venetian origin, is that the metal of the glass should be "here quite of a Venetian type, thin and absolutely white, although disfigured by the black specks so characteristic of early Venetian glass".⁴ Against this must be argued that this 'Syro-Frankish' glass has often a yellowish or greenish tinge of Syrian type; by those, however, who favour an attribution to Venice this might be explained by the fact that fragments of Syrian glass were melted into the glass produced in Venice; in a treaty that Bohemond VII, titular Prince of Antioch, Count of Tripoli (1274—87, really the last Frankish ruler in Syria), concluded in 1277 with Giacomo Contarini, Doge of Venice (1275—80), he grants "a tot le commun de Veneze,

² Cf. Ph. K. Hitti, *History of the Arabs*, London, 1937, pp. 665—8.

³ Cf. C. J. Lamm, *Gläser*, I, p. 491. — Sidon was in Antiquity the most important centre of glass manufacture in Syria, but is not mentioned as such in the mediaeval sources.

⁴ E. Dillon, *Glass*, London, 1907, p. 179.

franchise en ma cite de Triple, et en ma seigneurie ... sauf que ... si Venecien trait verre brize de la vile, il est tenuz de payer le dihme".⁵

With one exception, a fragmentary bowl with the representations of the German Emperor, excavated in Basle or its vicinity (*Pl. XXIV, 1*), all examples of this 'Syro-Frankish Group' that have been preserved in their entire shape, or in fragments (the total number known to me being twenty-two), are goblets that were certainly made — like most of the purely Islamic examples — for wine-drinking. Before entering upon a detailed description of these glasses, I will, chiefly for statistical purposes, make a brief survey of the entire material.

Three fragments have been found in Egypt, probably at Fustat (*Pls. XVIII, 3 and 4, and XX, 2*). These finds alone show that this glassware is of Oriental origin, and might perhaps be made use of — together with an obvious relationship to glass of the 'Fustat Group' — in support of an attribution to Egypt. But the historical conditions entirely speak against such an attribution, which is further contradicted by the fact that a goblet of the 'Syro-Frankish Group' bearing a Latin inscription (*Pl. XXIV, 2*) has been excavated north of Caucasia, while another, equally with a Latin inscription and with a German coat of arms (*Pl. XXIII, 1*), is said to have been found in the soil of Eastern Anatolia. It is obvious that these goblets, had they been made in Egypt, would have been sent to Europe in a safer and more direct way, probably by sea from Alexandria.

Out of the three goblets of this class that have been preserved above the soil, and which are all in a perfect state of preservation, two specimens reached Germany without going astray during the transport. One of them (*Pl. XXII*) still remains in that country, while the second, which bears Suabian coats of arms and the signature of "Magister Aldrevandin" (*Pl. XXIII, 3*), is now in the British Museum, where is also the third specimen (*Pl. XXIII, 2*). Several fragments of goblets belonging to the 'Syro-Frankish Group' have in recent years been excavated in Sweden; single fragments were found at Högby, in Öland, and at Old Lödöse, in Västergötland, while three fragments belonging to one and the same goblet were excavated at Lund, in Skåne, up to 1658 a Danish province (*Pl. XX, 1, 3 and 4*).

⁵ *Ibid.*, p. 180; C. J. Lamm, *Gläser*, I, p. 491.

No less than seventeen fragments, some of them broken, perhaps belonging to ten different goblets, were recovered at the Monastery of Vreta, in Östergötland (*figs. 9—18, Pl. XXI, 2—11*). This brings the total number of Swedish finds of Syro-Frankish glass up to thirteen, against nine (five of which complete) found in other countries. These Swedish discoveries thus serve to enrich our knowledge of this particular type of glass in a most remarkable way.

The chief importance of these finds — apart from their interest for local history — is that they show that all this Syro-Frankish glass was produced in one and the same workshop, that of Magister Aldrevandin[i], but for two exceptions, each of which is unique in its kind, viz., the fragmentary bowl at Basle, and one of the goblets belonging to the British Museum. The former (*Pl. XXIV, 1*), preserved in the Historical Museum at Basle, was, as stated above, excavated in or near this city.⁶ The colours are applied to both sides of the glass, but the representation is meant to be seen from the inside. The central part of the vessel is formed by a medallion containing, on a background of blue (painted upon the outer side), strewn with gilt stars, a representation of the German Emperor seated on his *faldistolium* (faldstool), the sides of which terminate in lion's heads. These heads are painted in white enamel, with the outlines and the inner design in red. The Emperor's face, surrounded by black hair, is represented in a similar manner, as is also his left hand, that holds a golden orb. The right hand is hidden under the apple green tunic and the red robe, the red colour being here used in the place of purple. This medallion is surrounded by a frieze enclosing a continuous scroll in gold outlined in red and comprised between fillets worked in the same manner. The scroll stands on a blue background which, at the involutions, changes alternatively into apple green, red and white. In its technique and colouring this glass (known to me only from reproductions) is closely related to the 'Aleppo Group'.⁷ The stars of the background are

⁶ *Idem, Gläser*, I, p. 278, II, Pl. 99, 2. The reproduction in the present volume is from a detached coloured plate that was sent to me by the late Dr. F. R. Martin.

⁷ Cf. *ibid.*, I, p. 298, II, Pl. 112, 25 and 26. — Within the subdivision characterized by the use of gold on top of thickly laid-on red, outlines in black, now often of a greenish tint, have sometimes (particularly in inscriptions) been painted upon white enamelling, but to my knowledge there is no instance of a similar use of red outlines. (Cf. *Pl. XX, 2*.)

reminiscent of the starred 'housings' of a horse, mounted, as it seems, by a Crusader, represented on a fragmentary dish in Syro-Frankish sgraffiato ware found at Mina (al-Mina, Port St. Symeon),⁸ the harbour of Antioch, seized by Baibars I (1260—77) the same year as the seizure of that city (1268). According to A. Lane, the site soon reverted to agriculture; the date 1268 is thus a *terminus ante quem*; it is of particular importance in the study of glass as a few fragments of enamelled and gilt glassware (but none of the 'Syro-Frankish Group') were found on that site. In a somewhat over-critical review of Lane's paper on the finds from Mina, Florence A. Day expresses some doubts concerning the validity of this date as a *terminus*⁹; in any case it must hold good for objects produced by the Franks, such as the dish just referred to. The comparison here made thus supports the dating I had previously, on comparison with glass of the 'Aleppo Group', suggested for the bowl at Basle, viz., about 1250—60. This bowl is certainly the work of a German, made in collaboration with a Syrian glass-painter trained at Aleppo. I can thus not accept F. de Mély's hypothesis concerning the Rhenish origin of this glass, a hypothesis based partly upon the design (which may well be Rhenish), and partly upon the similarity of the green colour used in this glass to the *vert rhénan* characteristic of the enamels made in that part of Germany.¹⁰

In gilt and enamelled glass of Islamic type, faces and hands are always rendered in gold with outline red, not in red upon white as on the bowl in Basle. A parallel to this way of rendering the naked skin in enamelled glass is afforded by the second of those two unique specimens of Syro-Frankish glass referred to above, a large goblet in the British Museum, previously in the A. Hope Collection (*Pl. XXIII*, 2),¹¹ its pedigree being otherwise unknown. The glass is of a slightly greenish tint and has a few elongated bubbles. The base with its deep conical 'kick', is exceptionally not surrounded by a thread of glass. The main decoration, comprised within a broad zone, is made in red, blue, apple green and white enamels, for the most

⁸ A. Lane, *Archaeologia*, LXXXVII, 1938, p. 51, Pl. 24, 2.

⁹ *Ars Islamica*, VI, 1939, pp. 186—97.

¹⁰ *Gazette des Beaux-Arts*, II (3rd series, XXXIV), 1905, pp. 284 f. with fig.

¹¹ C. J. Lamm, *Gläser*, I, p. 279, II, Pl. 99, 4 (with further references); the reproduction after E. Dillon, *op. cit.*, pp. IX, 163 f. and 179 f., coloured frontispiece.

part outlined in gold and red. "The decoration is", to quote E. Dillon, "in its way masterly: on either side of the throne on which is seated the Virgin with the Child in her lap, stands an angel holding a tall candle; beyond are the figures of St. Peter and St. Paul"; the figures are separated by conventional trees. "As to the style of the decoration, it is to my mind", Dillon continues, "distinctly Western; the figures might be taken from a French missal of the thirteenth century. The *Arte Francisca* was no doubt coming into favour in Venice at this time, but even in the fourteenth century it was regarded as something exotic, and I doubt if it was as yet practised by Venetian craftsmen who, in the minor arts, long adhered to Byzantine models. When we come to examine the technique of the enamels, we are at once struck with their resemblance to those on the Saracenic glass of the period." However, this glass affords no parallel to the silver, now oxydized, placed on a yellowish foundation and used in the narrow friezes bordering the main decoration, together with outline red and a thin green pigment that appears red in transparent light; the lower frieze contains a continuous scroll, the upper bears the inscription: "DNIA (*Domina*) : MATER : REGIS : ALTISSIMI : ORA : P[RO] : PA[CE] +", written in Gothic silver letters. The use of this silver might perhaps be quoted against the attribution of this goblet to Syria (where it can not have been made after 1291). In such case one must presume that the technique had been brought over to Venice from Syria; not by Magister Aldrevandini, who worked in another, less distinguished style, but by some other European who had learned his craft in Syria. The following statement made by R. Schmidt concerning the activity of Aldrevandini, must, however, hold good also for this anonymous glass-painter¹²:

"Jedenfalls hat also dieser Magister Aldrevandini in einer syrischen Werkstatt gearbeitet. Schwerlich aber hat er die dort erworbenen Kenntnisse auch in seiner italienischen Heimat verwendet: sehr viel, — etwa 1 1/2 Jahrhunderte — später erst kommt die Emailtechnik in Venedig in Aufnahme, und zwar unter gänzlich veränderten technischen und künstlerischen Voraussetzungen."¹³

¹² *Das Glas*, 2nd ed., Berlin and Leipzig, 1922, p. 58. — Schmidt's theories concerning glass of the category here discussed have been confirmed by the later finds.

¹³ Cf. C. J. Lamm, *Gläser*, I, p. 372.

The Aldrevandini goblet (*Pl. XXIII, 3*) was acquired by the British Museum from the R. Gedon Collection at Munich.¹⁴ It is of a squat shape betraying European influence. The base with its deep 'kick' is surrounded by a fused-on glass thread. The decoration, which is rather doggerel, is comprised within a broad zone, limited below by a yellow fillet between irregular lines in outline red. A narrow frieze formed by two such stripe ornaments marks the upper limit of the decorated zone and comprises an inscription in Gothic characters enamelled in white: "MAGISTER · ALDREVANDIN · ME · FECI[T] +". The broad zone contains foliage with heart-shaped and three-lobed leaves painted upon the inside of the glass in blue, red and green. The stalks, as well as the serrated outlines of the leaves, are painted upon white enamel applied to the outer side. This leafage is interrupted by three pointed shields, bordered by white beads and red fillets edged in white. These shields contain the following coats of arms: three stag's horns in fesse, azure; white (for argent), three keys in fesse, gules; per fesse white and sable, in chief a bar. According to Sir Ch. Hercules Read, "Max Rosenheim has narrowed the search of the original owner to the province of Suabia, to which two out of the three coats belong. The coat with the three stag's horns belongs, with variations of colours, to no less than six towns in Suabia, as well as to the family of Landtau; a second, that of the three keys, to the family of Spet of the same district."

A goblet in the Landesmuseum at Stuttgart (*Pl. XXIII, 1*),¹⁵ acquired from the Ph. Schwarz Collection, in the same city, and said to have been found in a tomb in Eastern Anatolia, bears two pointed shields with the following coats of arms: parted per fesse, dancetté, white (for argent) and gules; and on the other shield, the same, counter-changed. This coat of arms is known in German heraldry as '*fränkischer Rechen*' (rake); R. Schmidt rightly remarks that "die Deutung der Wappen auf den Würzburger Bischof Gottfried von Spitzenberg (1184—90), der 1190 während des 3. Kreuzzuges in Antiochia starb,

¹⁴ *Ibid.*, I, pp. 278 f., II, Pl. 99, 3; Ch. H. Read, *Archaeologia*, LVIII, 1902, pp. 224—6, figs. 6 and 7; in the present work reproduced after E. Dillon, *op. cit.*, pp. XIV and 179, Pl. 28.

¹⁵ C. J. Lamm, *Gläser*, I, p. 278, Pl. I; *Katalog der Sammlung Philipp Schwarz*, Stuttgart, Helbing, Munich, Oct., 1916, No. 6, pp. 3 and 7 f., Pl. 1; R. Schmidt, *op. cit.*, p. 58.

hat viel Verlockendes, lässt sich aber nicht halten, da sie etwa um ein Jahrhundert zu früh greift". The same emblem forms part of the escutcheons borne by most of the later Bishops of Würzburg. Also the inscription, in Gothic majuscles, remains a riddle.¹⁶ Just as on the Aldrevandini goblet it is worked in white enamel and contained within a frieze bordered by yellow fillets edged in thick outline red. This frieze forms the upper limit of a broad, decorated zone, in which the two shields are separated by bouquets formed by ivy-leaves in yellow and faded green, with contours and stems in outline red. A yellow fillet edged in red, and a white zigzag form the lower boundary of this zone. The base has a 'kick' and is surrounded by a thread of glass. The goblet is broken and mended, and the enamel is in a state of advanced decay.

A closely similar goblet, in the same deplorable state of preservation (*Pl. XXIV*, 2), has been acquired by the Islamic Department of the Berlin Museums from the de Massoneau Collection.¹⁷ This goblet was found north of the Caucasus, probably in a Tartar tomb, which is rather surprising as it has a Latin inscription: "NON · DETUR · PETE +" ("Do not break it", from *deturpare*). Among the ivy-leaves of the central zone there is here a red snake with a yellow bird's head. These representations are rude and inartistic in the extreme.

By far the most attractive object within the entire group is a most well-preserved goblet of the same shape as those just described (*Pl. XXII*), acquired by the Museum of Arts and Crafts at Frankfort-on-the-Main from the Hohenzollern Museum at Sigmaringen.¹⁸ The central zone is limited in the same way as on the two goblets just described, but above and below there is an additional row of white beads, which are rather flat, and the inscription reads as follows: "A[V]E · MARIA · GR[A]CIA · PLEN[A] +." The frieze containing the inscription appears as if borne on a column resting on a base and supporting a capital, an abacus and an almost triangular spandrel with an inner triangle decorated with a trefoil. The shaft is flanked by two little birds, whose

¹⁶ In the rendering "IMERET · FXEHS · XUT +", letters, the reading of which I regard as uncertain, are italicized. Of some of these letters only faint traces remain. As the second *E* in the first word appears to be a combination of *E* and *G*, the reading "*im[m]erget*" is perhaps not excluded.

¹⁷ C. J. Lamm, *Gläser*, I, p. 285, II, Pl. 103, 8.

¹⁸ *Ibid.*, I, p. 279, II, Pl. 99, 5 (with further references).

heads are reminiscent of that of the snake on the goblet in Berlin. The larger portion of this zone is occupied by an eagle and a griffin 'passant' confronting each other. The eagle is represented with wings raised and holding an ivy-shaped leaf in its nib; the griffin has its tail boldly uplifted in an S-shape ending in a lobed tassel that encroaches upon the lower fillet of the frieze. All the representations contained within this zone have white outlines and surfaces painted outside the glass in yellow and light green, and inside it in red and blackish brown.

Closely related to this goblet is the well-preserved fragment of a goblet of thin, colourless glass belonging to the Benaki Museum, Athens (*Pl. XX, 2*). This fragment bears the very defective representation of what appears to be a griffin 'sejant'. The white contours are painted upon the outside of the glass, as are also surfaces in yellow and white; red, blue and green surfaces are, on the other hand, painted upon the inside. The colour scheme is thus identical with that of the Aldrevandini goblet, but for the existence, on the fragment, of red outlines painted on top of the white surfaces. This feature again is characteristic of the two glasses described in this Chapter as standing apart from the main group of Syro-Frankish glass, viz., the fragmentary bowl at Basle and the goblet from the Hope Collection in the British Museum. Now, as the fragment in Athens was found in Egypt, probably at Fustat, it may be quoted as proof of the Oriental origin of the products of the Aldrevandini workshop, and as strong argument in favour of a similar attribution of the two unique specimens just mentioned.

Two fragments of goblets of the same type and provenance as the one in Athens are among the numerous (approximately 3,000) fragments of Oriental glass (chiefly enamelled and gilt) found in Egypt, that my father, the late C.R. Lamm, has presented to the National Museum in Stockholm.¹⁹ One of these two fragments (*Pl. XVIII, 3*) shows a portion of the lower part of the decorated zone limited by a yellow fillet edged in outline red.²⁰ Above this fillet one distinguishes a leaf (in red and blue) placed under the belly of a running, four-pawed griffin (or

¹⁹ This collection has been arranged in a case specially constructed for the purpose. The fragments are divided into two series, one, in the top drawer of the case, visible at once to all visitors to the museum, the other, in the remaining drawers, accessible for study when the drawers are pulled out. Group photographs of both series are available.

²⁰ C. J. Lamm, *Gläser*, I, p. 280, II, Pl. 100, 6 (upside down).

a winged lion). The outlines, in white, are painted upon the outside of the glass, while the surfaces are filled in with black, greyish blue and red, applied to the inside. On the second fragment in Stockholm (*Pl. XVIII, 4*) a portion of the thread encircling the base has been preserved. The fragment has suffered from oxydation, and its metal has another tint, but it is otherwise closely reminiscent of that just described. There is, however, no trace of black enamelling, and the ornament consists of leafage only, which shows the same serrated outlines as on the Aldrevandini goblet.

The minute fragment of a goblet reproduced in *Pl. XX, 1*, shows an interrupted horizontal band and what appears to be the upper end of the wing of a bird or griffin, represented in the same type of enamelling as on the fragment just described, i. e., with white outlines and a streak of yellow painted on the outside of the vessel, while the surfaces are filled up on the inside with red and blue. This fragment, preserved in the State Historical Museum at Stockholm, was discovered in June, 1931, by Dr. E. Floderus within the foundation of a mediaeval building at the parsonage of Högby, on the eastern side of Northern Öland, together with fragments of kettles, axes, Early Gothic pottery etc.²¹

A horizontal band in 'under-glass' red, edged in white and placed on a background in 'under-glass' blue with white beads — some of which are, like those on the goblet in Frankfort, arranged in a row — is to be seen on the minute fragment of a goblet (*Pl. XX, 3*) discovered by Baron C. R. af Ugglas during his excavations at Old Lödöse, in 1916—20, and now preserved in the Gothenburg Museum.²² Old Lödöse (Lödhos), once the most important town of Western Sweden, is situated in what is now the parish of St. Peder,²³ in Västergötland, on the Gotha River (Göta älv), at a distance of 40 km. from its mouth. At a time when — but for brief periods of Swedish occupation — Bohuslän belonged to Norway, and Halland to Denmark, the place was frequently exposed to the attacks of enemies; the goblet of which this fragment forms part may very likely have perished in the fire

²¹ *Kungl. Vitterhets Historie och Antikvitetsakademiens årsbok*, 1930—32, No. 19,645, p. CX.

²² C. R. af Ugglas, *Lödöse (Gamla Lödöse). Historia och arkeologi*, Gothenburg, 1931, p. 548, note 4, fig. 222, from a drawing by H. Karlsson.

²³ This was the name of one of the two main churches of Lödöse.

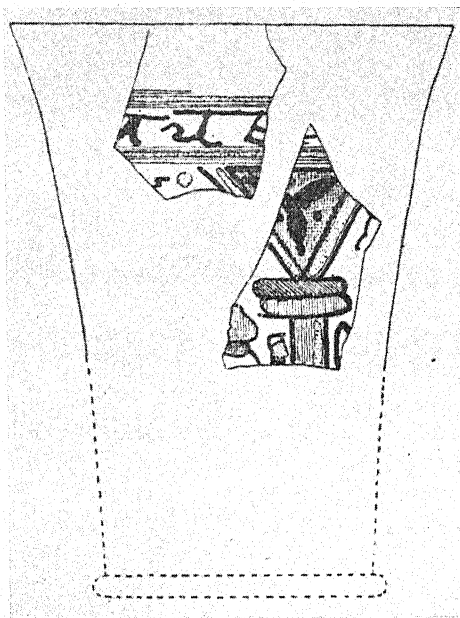


Fig. 7. Two fragments (one more preserved) of an enamelled glass goblet found at Lund (reconstruction). Syro-Frankish, c. 1260—90. Kulturen, Lund. ²/₃. (Cf. Pl. XX, 4.)

that ravaged the town in 1304, other fires being recorded from the years 1307, 1367 and 1455. As a town it lost its privileges in 1526, but the place had been partly evacuated already in 1473, at the foundation of New Lödöse, in distinction to which it was henceforward known as *Old Lödöse*. New Lödöse again lost its importance with the foundation of Gothenburg (Göteborg) in 1619, of which it nowadays forms a quarter, known as Gamlestaden ('the Old Town').

Three fragments of a goblet of non-coloured glass, with small bubbles (*fig. 7, Pl. XX, 4*), were found in October, 1937, during diggings made in Lund on the house premises of the Lund Motor Co., on Bredgatan, No. 43 of the house block Paradiset.²⁴ The fragments now belong to the local museum known as Kulturen. On the inside the glass is painted in red and greyish blue, on the outside in greenish

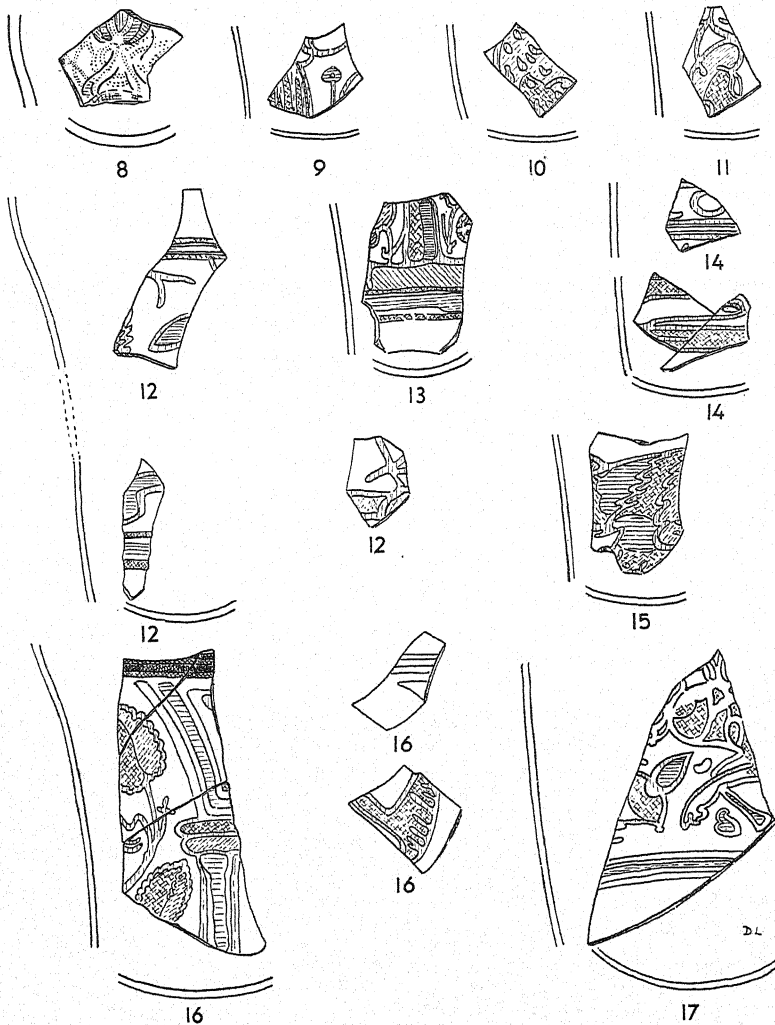
²⁴ R. Blomquist, *Kulturen, en årsbok* (Lund), 1937, p. 82, photograph and drawing (my *fig. 7*) on p. 83.

yellow, green, black and white, the two latter pigments having been used chiefly for outlines; such a use of black (which at places turns into red) is a rare feature among the products of the Aldrevandini workshop. On this vessel the inscription of the goblet in Berlin (*Pl. XXIV*, 2), "[N]ON [·DE]TUR [·PETE +]", written in black letters between yellow fillets edged in white, is combined with the pillar and spandrel motif of the goblet in Frankfort (*Pl. XXII*), but the total number of the pillars has, however, not been one, but three; in the above rendering of the inscription I have italicized the letters that had their place above each pillar. Although the writing is very careless, there is not the slightest doubt but that my reading is correct. Too little remains of the representations placed in the arcaded fields as to make it possible to fix their nature; perhaps were they birds and phantastic animals, placed on a background enlivened by leafage.

During excavations made in the years 1916—23 at the Monastery of Vreta (Vreta kloster, close to the present church of the same name), in Östergötland, under the direction of Mr. S. Curman, Chief Antiquarian to the State, Dr. E. Lundberg was fortunate in finding a considerable number of fragments of enamelled glass goblets (*figs. 8—18*,²⁵ *Pl. XXI*), one of which (*fig. 8, Pl. XXI, 1*), described in the preceding Chapter, belongs to the 'Damascus Group', while all the others belong to the Aldrevandini group of Syro-Frankish glass. Dr. W. Holmqvist kindly called my attention to these fragments, preserved in the State Historical Museum at Stockholm, while working on the finds from Vreta kloster during the summer, 1939, with the aim of arranging the material for final publication.²⁶ Differences in the decoration of these fragments, as well as in the thickness and tint of the glass, show that they belong to several goblets, and they were not found together, but

²⁵ In these drawings, made by Mrs. Dora Lamm, the colours are marked by hatchings in the following way (cf. C. J. Lamm, *Gläser*, II, p. VI): *white* — vertical lines; *yellow* — horizontal lines; *green* — diagonal lines descending from left to right; *blue* — ditto, ascending; *red* — diagonal cross-hatching (interrupted lines show that the red, blue or green has been applied to the inside of the glass); *black* (or *dark brown*) — dense hatching; *gold* — dots.

²⁶ For general information concerning the excavations, see E. Lundberg, *Vreta kloster. Svenska fornminnesplatser*, VI, 2nd ed., Stockholm, 1933, and S. Curman and E. Lundberg, *Vreta Klosters kyrka*, in *Sveriges Kyrkor, Östergötland*, II (No. 43), Stockholm, 1935. Concerning the monastery, see also F. Hall, *Vreta kloster*, Gävle, 1902, and O. Vågman, *Vreta kloster*, Stockholm, 1904.



Figs 8—17. Fragments of enamelled glass goblets found at the Monastery of Vreta, Östergötland. Fig. 8, also gilt, Syrian (probably Damascus), c. 1280—90, the others Syro-Frankish, c. 1260—90. State Historical Museum, Stockholm. $\frac{3}{4}$. (Cf. Pl. XXI, 1—10.)

scattered about the excavated area. So were the fragments reproduced in *figs.* 9 (No. 174, like all the others under the general No. 18,011) and 17 (No. 290) found in the greater courtyard; *figs.* 11 (No. 130),

12 (No. 212), 15 (No. 217) and 18 (No. 220), west of the convent buildings; *fig. 13* (No. 302), in the convent's cellar; *figs. 14* (No. 366) and 16 (No. 407), in the churchyard east of the convent buildings. The coins entered under the same numbers are of the most varying dates, ranging from the 12th to the 17th century.

The distribution of colours is as follows. White outlines painted upon the outer side of the glass, as well as red surfaces painted upon the inside, occur on all the fragments, yellow outside painting on all but those reproduced in *figs. 10 and 11*. Other colours used are outline red, painted upon the outside (*figs. 12—14, 16 and 18*), blue painted on the inside (*figs. 10, 11, 13, 15 and 16*), green painted on the outside (*fig. 13*) or upon the inside (*figs. 15 and 18*), and black painted upon the outside in linear manner (*fig. 16*) or, to fill surfaces, on the inside (*fig. 18*).

In many instances much of the enamelling is abraded or decomposed so that the original colouring, or even the pattern (*fig. 17*), can not be clearly recognized. The enamels applied to the inside of the vessels are often more devitrified than those painted upon the outer side; this is perhaps due, not to the composition of the flux, but to the circumstance that, when the colours were burned in, the temperature was, during the first heating, lower inside the glass than outside.

Here, as in almost all the glass produced by Magister Aldrevandini and his assistants, the entire decoration has been fused in by one firing, and not by two (or three) as in the gilt and enamelled glasswares. As by reiterated heating of the glass there was always a great risk that the object should lose its shape, and as a deep knowledge of the melting temperatures, acquired empirically, was the condition of success in such a procedure, the method adopted by Magister Aldrevandini meant a great simplification, to be compared with that devised by the glass-painters at Fustat. On both sides the costly gilding, that had to be burnt in prior to the other pigments, was given up; but whereas the red outlines, by their thickness resembling those of the 'Raqqa Group', were preserved at Fustat, they were not used to the same extent on this Syro-Frankish glass, where most outlines are in white. This colour, being almost opaque, was well apted for the purpose, and in order to avoid the colours running together, some surfaces were painted upon the inside of the glass, a procedure that had first been worked out

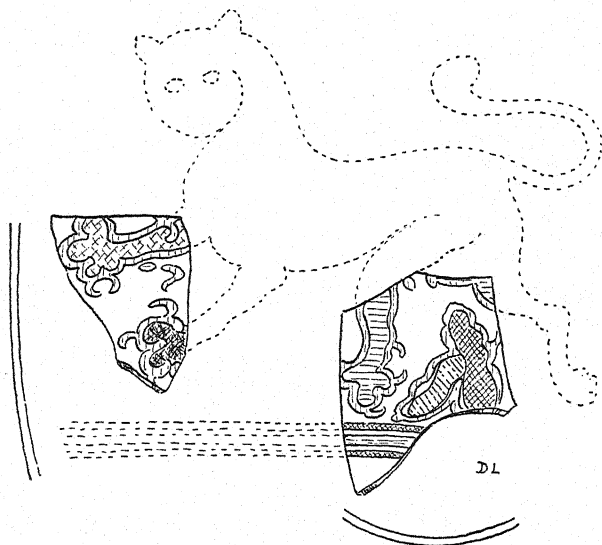


Fig. 18. Fragments of enamelled glass goblet found at the Monastery of Vreta, Östergötland (completion of pattern). Syro-Frankish, c. 1260—90. State Historical Museum, Stockholm. $\frac{1}{1}$. (Cf. Pl. XXI, 11.)

within the 'Aleppo Group', as it is unknown as regards glass of 'Raqqā' type. But there is an important distinction to be made: in the purely Islamic glass, just as on the bowl at Basle (*Pl. XXIV, 1*), these 'under-glass' colours — which are laid on more thinly than those painted on the outside — are confined to stripes or medallions, often showing gilded ornament,²⁷ while on the glass produced by the Aldrevandini workshop they follow the shape of the ornament, thus affording a parallel to lustred glass of the type known from Barkarby (*fig. 6, Pl. I, 6*).

Magister Aldrevandini was of an enterprising character and had an inventive mind, and he understood how to balance between Eastern and Western taste. But he was by no means a great artist, and he lacked that instinctive feeling for decorative beauty that seems to be the prerogative of Eastern craftsmen; and, what is most striking, he

²⁷ From the late 13th and from the 14th century there are a few examples of glass with allover inside painting in green.

and his helpmates never ventured upon introducing representations of human beings into their works. A contributing reason for such an abstinence (which marks the Islamic glass of the 14th, but not that of the 13th century) *might* have been the Jewish *milieu* in which they must be supposed to have worked.

Among the fragments found at the Monastery of Vreta are two examples (*figs. 13 and 16, Pl. XXI, 6 and 9*) of the arcade device already met with on the goblet in Frankfort (*Pl. XXII*) and the fragments at Lund (*fig. 7, Pl. XX, 4*), combined with the leafage characteristic of the Aldrevandini goblet in London (*Pl. XXIII, 3*). On the fragment represented in *fig. 16*, there is also a wing-like ornament; on those shown in *fig. 12 and Plate XXI, 5*, a serrated leaf of the same type occurs in connection with what appears — judging from the minute portions that remain — to be a fish (copied in yellow from the golden fish of 'Aleppo' glass), a hoofed animal and a bird (or griffin), other birds being represented on the fragments illustrated in *figs. 9 and 15, Pl. XXI, 2 and 8*. Two fragments, probably not belonging to the same goblet (*figs. 10 and 11, Pl. XXI, 3 and 4*), also show some kind of leafage. One goblet (*fig. 14, Pl. XXI, 7*) has some kind of stripe ornament and a narrow frieze containing an inscription to be compared with those of the goblet in Berlin (*Pl. XXIV, 2*) and the fragments in Lund (*fig. 7, Pl. XX, 4*); suffice it to say that the only remaining letter 'O' *may* have been preceded by an 'N'. The decoration of another fragment (*fig. 17, Pl. XXI, 10*) with leafage and running animals is too abraded to give more than a vague idea of this particularly rich design. In the case of the two fragments of still another goblet (*fig. 18, Pl. XXI, 11*) a keen attempt has been made to reconstruct the pattern, that might have consisted of two feline animals, real or winged (*cf. Pl. XVIII, 3*). The vacant spaces have been filled with leafage, of which only a trefoil, identical to those of the Aldrevandini goblet, has been preserved.

The feline animal of the reconstruction, in the terms of heraldry a leopard (a lion 'guardant') 'passant', reminds one just as much of the coat of arms of Baibars I (1260—77) as of that of Valdemar (1250—75, d. 1302), who was the first Swedish king of the Folkunge dynasty, and whose seal shows three crowned leopards. This coat of arms he had taken over from his mother's brother, King Erik Eriksson, the Lipping and Limping (Läspe och Halte, 1222—50), the last king

of the Erik lineage. Valdemar's father, the omnipotent Birger Jarl (d. 1266), as well as his younger brother, Magnus Ladulås (1275—90), by whom he was dethroned, bore a lion 'rampant' over three bends sinister, the most important of the heraldic bearings of the Folkunges, still preserved in fields 2 and 3 of Sweden's coat of arms. None of these blazons is, unfortunately, to be seen on the glass fragments found at Vreta kloster; but one may be sure that a leopard, like that in our reconstruction, must in a particular way have appealed to the race of the Folkunges.

A Cistercian nunnery had been established at Vreta in 1162, and a church had existed there since the 11th century. The church, having been radically restored, was re-consecrated on June 13, 1289. "Anno domini 1289 idibus Junii dedicata et consecrata est ecclesia sancti monialium Vretis per venerabilem in Christi patrem dominum Benedictum secundum presente domino Magno Sweorum Gotorumque rege ac domina Helewiik regina in honorem dei omnipotentis ac gloriose virginis Marie. Eodem tempore domina Katerina secunda proxima die festum dedicationis precedente consecrata est in abbatissam ibidem, altis decem virginibus eciam eodem tempore solleniter deo dedicatis et introductis ac consecratis."²⁸

One is rather tempted to imagine that the goblets found in such a surprisingly fragmentary state in the monastery were used at the banquets that must have taken place in connection with these religious ceremonies, honoured by the presence of King Magnus and Queen Helvig, a daughter of Gerard I, Count of Holstein. The Count and Magnus, whom she had married in 1276, both died in 1290, while Helvig, who died in 1324, had to witness the ruthless and bloody fight between her sons, all of whom she survived. Her brother, Gerard II, was in 1275 married to Ingeborg, a daughter of King Valdemar who, on his return from a pilgrimage to Rome, had been defeated by his brother Magnus just before the wedding took place at Lödöse. King Magnus resided there in 1285, at which time the town had been restituted to him by the Danish King, Erik Klipping (1259—86), to whom it was mortgaged in 1278. It was on that occasion placed in the charge of Svantepolk Knutsson (d. 1310), who

²⁸ *Scriptores rerum Svecicarum medii ævi*, ed. C. Annerstedt, II: 2, Uppsala, 1876, p. 296, quoted from a Late Mediaeval document preserved in the Archives of the Linköping Cathedral.

was related to both the royal houses. Svantepolk was a great benefactor of Vreta kloster. Three of his daughters entered the convent, two of whom became abbesses. The first of these was Catherine, the second abbess at Vreta of that name, the Katerina II of the text just quoted. She died in 1329, but had in 1322 or 1323 been succeeded by her sister Ingrid, who died at Vreta in 1350, several years after having retired from her function. Ingrid was the widow of Folke Algotsson, who about the year 1287 had abducted her from the convent and brought her to Norway; she was at that time engaged to be married to the Marshal of the Danish King, which shows that she had been placed in the convent for educational purposes only. This abduction, committed by the son of the Doomsman (*lagman*) of Västergötland, had caused great sensation and had excited the immoderate wrath of King Magnus, being a transgression of the laws his father, Birger Jarl, had made for the protection of the peace of women. All the members of the family were severely punished, one of Folke's brothers was put to death (in 1290), and another of them, the famous Bishop Brynjolf of Skara (1278—1317), had to hide himself for a time in the Cistercian convent Alvastra in Östergötland. In mediaeval ballads Folke Algotsson is known as 'Falken Albrektsson'.

The Cistercian nunneries were rather independent of that monastic order, and in the case of Vreta (the first nunnery established in Sweden) it was therefore quite natural that the convent should place itself under the protection of the mighty bishops of the neighbouring Linköping. One of them was Bengt (Benedictus) II (1286—91), by whom Catherine was ordained. Bengt, since 1284 also Duke of Finland, was the youngest son of Birger Jarl,²⁹ and had supported Magnus in his fight against Valdemar.

Tradition has it that Valdemar made a pilgrimage to the Holy Land, but, as was stated above, he only reached Rome, which was a station on one of the routes — in the 13th century undoubtedly the most important — by which Swedish pilgrims undertook the long journey to Palestine.³⁰

²⁹ Karl (Charles), an older brother of Birger, became Bishop of Linköping in, or about, 1216. He died in 1220 on a Crusade against the Esthonians, and was succeeded by his younger brother Bengt (1220—37).

³⁰ Cf. P. Riant, *Expéditions et pèlerinages des Scandinaves en Terre Sainte au temps des Croisades*, Paris, 1865 (Index, 1869). This excellent work contains ample

One of those who reached their goal was Henrik (Henry), Bishop of Linköping (1258—83). In 1282 he left Sweden with a great retinue of priests and laymen, many of whom are known by name. On his way through France he was taken seriously ill at Marseilles, where he made his last will on April 11, 1283. In July of the same year he reached Acre, by the Scandinavians called Akrsborg and regarded as the true capital of Palestine. After having added a codicil to his will, dated August 27, 1283, he died there; his fate was thus similar to that of one of his predecessors on the bishop's throne at Linköping, Kol by name (1171—96), who died at Jerusalem, and who was the first Swedish bishop to have visited that holy place, or to become a *Jorsalafari*.

Bishop Bengt, the brother of King Magnus mentioned above (he died of the plague on May 25, 1291), did not visit Palestine, but his successor, Lars (Lawrence) — who perhaps belonged to the Lillie family, and who became a great patron of Vreta — was ordained by Bishop Brynjolf Algotsson, in Skara, in September, 1292,

»Ny kommen hiem af the helga land
Med her Bengt Östgöte lagman»
(»Just arrived from the Holy Land
Together with *Herr* Bengt, Doomsman (*lagman*) of
Östergötland»).³¹

information concerning Scandinavian relations with the East. Here should be mentioned that in 1286 an embassy was sent by Arghun, the Mongol Ilkhan of Persia (1284—91), grandson of Hulagu (1256—65), to Erik Magnusson, King of Norway (1280—99) in order to apply for help, presumably with ships, against the Mamluks of Egypt, the common enemy of the Mongols and the Frankish states in the East. The embassy accompanied the Papal Legate Huguiccio of Castiglione; Rome still cherished the idea of a collaboration with the Mongols, and had not yet given up the hope of converting them definitely to Christendom. The call for another Crusade upon the fall of Acre, in 1291, was answered with great enthusiasm in Scandinavia, particularly in Sweden, where a number of noblemen are known to have taken the cross; the Crusade was, however, never accomplished, and the Scandinavians seem gradually to have lost much of their interest in Palestine, though subsidies for the Holy Land were still being paid to Rome. As against the numerous Swedish pilgrimages to the Tomb of Christ in the 13th century, there is to be quoted from the 14th century only the one undertaken in 1372—73 by St. Bridget, and two of her sons, one of whom died on the journey, from which she returned to Rome with broken health that led to her death within a few months.

³¹ *Scriptores rerum Suecicarum*, II, 2 p. 106, from a rhimed chronicle of the bishops of Linköping, written at the beginning of the 15th century.

The election, in 1291, had been preceded by long controversies. The Bengt mentioned in the rhymed chronicle was the son of Magnus Bengtsson (d. 1263), who prior to the former held the same high office of Doomsman of Östergötland, and whose father was probably a half-brother of Birger Jarl, bearing the same coat of arms as he, a lion 'rampant' over three bends sinister. When Bengt Magnusson made his pilgrimage, his son Magnus officiated in his stead, and when Bengt died in 1294, this second Magnus Bengtsson succeeded him and held the office permanently. Bengt Magnusson had with his second wife, Sigrid, a daughter, Ingeborg, the mother of St. Bridget. It was for being an ancestor of this Saint (probably born in 1303, d. 1373) that the legendary fiction of the 15th century occupied itself with *lagman* Bengt and Sigrid 'the Fair',³² who died in 1289 and was interred in the Dominican Monastery at Skenninge, in Östergötland.

On the occasion of the great ceremonies that took place at Vreta in the same year, a document was issued by King Magnus, dated June, 12, in which it is stated that Bengt, "*legifer Osgotorum*", as well as Svantepolk, had been consulted concerning the legality, according to the law of the province, of the donations made to Vreta in connection with the ordination of Svantepolk's daughter Catherine.³³ One has concluded from this that both noblemen were present at the ceremonies, and I think there is little room for doubt on that point. But there is another question, which concerns only Bengt: had he already come back from the East when the ceremony took place, or did his pilgrimage, together with Lars, his Chaplain, and the rest of his numerous suite, take place between this ceremony and the ordination of Lars at Skara? In the latter case they must have left Linköping during the second half of the year 1289 (and Bengt did perhaps undertake the pilgrimage on account of his wife's death); in the former case they

³² Their wedding is treated, according to these legends, in a famous historical play, *Bröllopet på Ulvåsa*, written in 1865 by F. Hedberg (1828—1908). Cf. H. Schück, *Ur gamla papper*, I, Stockholm, 1892, pp. 128—35.

³³ *Diplomatarium Suecanum*, ed. J. G. Liljegren, II, Stockholm, 1837, No. 994, pp. 76 f.; cf. I, 1829, No. 432, p. 379, donations made by Svantepolk to the Monastery of Vreta when two of his daughters were received there in February 23, 1256. Is that date really correct?

must have started in 1288,³⁴ and Bengt at least must have hastened his journey back.

I will here allow myself a quotation from P. Riant's work on Scandinavian pilgrimages during the period of the Crusades:³⁵

»Le voyage par terre, comme le voyage par mer, demandait au moins une année, et quoique une liste des distances et du temps nécessaire pour les parcourir indique une période plus courte,³⁶ cependant on voit que l'absence des pèlerins durait de deux à trois ans, ce qui, en déduisant le temps du séjour en Terre Sainte, donne au moins douze à quinze mois pour la route entière. Le départ n'avait pas lieu à époques fixes; cependant, plus tard (*in the 13th century*), il est certain qu'il était déterminé de façon que l'arrivée des pèlerins dans les ports de la Méditerranée coïncidât avec l'un ou l'autre de ces deux convois annuels de croisées, de ces deux *passagia*, qui avaient lieu à Pâques et à la Saint-Jean, qu'annonçaient souvent les Souverains Pontifes eux-mêmes et qui offraient un moyen de transport rapide, sûr et économique . . . On voit que . . . la durée totale, aller et retour, varia depuis six mois jusqu'à cinq ans.»

Now, supposing Bengt and his suite had departed from Linköping after the celebration at Vreta in June, 1289, they would not have been able to make use of the *passagias* of that year; and whatever conveyance they had used, they would have arrived in Palestine at a period of warfare that would hardly have allowed this little caravan (to use P. Riant's expression) to come back to Sweden "saine et sauve après avoir visité les Lieux Saints et le tombeau des Apôtres". On the other hand, if they had reached Palestine with the Easter *passagia* of 1288, they would have had just sufficient time to visit the holy places before the outburst of that campaign, an account of which has been given in the beginning of this Chapter; and it must have been this same event that made them hurry on and make use of the first opportunity that offered itself for the return voyage.

Of the three places where Magister Aldrevandini might have had

³⁴ This date is given by P. Riant (*op. cit.*, p. 370), quoting (in note 7) Ericus Olavi (d. 1486), who says in his *Chronica regni Gothorum*: "Anno domini 1288 Benedictus transiit ultra mare." See also literature referred to in note 1 on p. 371.

³⁵ P. Riant, *op. cit.*, pp. 60 f.

³⁶ Cf. K. Kålund, *En islandsk vejviser for pilgrimme fra 12. århundrede*, in *Aarbøger for nordisk Oldkyndighed og Historie*, 3rd series, III, 1913, pp. 51-105.

his glass-oven, Tripoli succumbed to the Mamluks in April, 1289, and was almost reduced to ruins, Acre, the last bulwark of the Latin Orient, fell in May 1291, and Tyre only a few days later. Now, supposing it was Bengt who brought back the glass goblets, fragments of which have been found at Vreta, none of these towns would be excluded as the place of manufacture if he left Sweden in 1288, but, if he departed in 1289, Tripoli would most probably be eliminated; and, in any of these two cases, one would be able to prove that the manufacture of the goblets is to be placed chronologically nearer to its *terminus ante quem* (1291) than to its *terminus a quo* (about 1260).

But, unfortunately, one can not prove definitely that the glasses were brought home by Bengt and his Chaplain — just as it is impossible to prove that they were not! And were they not brought home to Sweden by Bengt or Lars, there are, as may be inferred from the above, many other possibilities of explaining their presence at Vreta. In the first place one should here think of the men who accompanied Bishop Henrik to the Holy Land; this too would lead to a late dating of the glasses within the limits given. As to the fragment found at Lödöse, there is every reason to think that the goblet to which it belonged was equally brought home from Palestine by a Swedish pilgrim, and I have quoted above a few historic data that connect this city (which might well have outrivalled Stockholm)³⁷ with the great events and the prominent personages of the period. Concerning the other finds of enamelled glass in Sweden, should be mentioned here that in mediaeval time both Högby in Öland and Ringstaholm, near Norrköping, belonged, like Vreta kloster, to the Diocese of Linköping. The finds from Lund and Hälsinborg (in the See of Lund) have no parallel from the parts of Denmark which are still under the Danish crown; and it may be stated in a general way that, to my knowledge, specimens of Oriental glass vessels of the 9th—14th centuries, complete or in fragments, have neither been found in these parts of Denmark, nor in Norway or Finland.

³⁷ Tradition assigns to Birger Jarl the foundation of Stockholm, mentioned for the first time in 1252. Stockholm must, however, have existed at least a century before that time, but it is quite possible that it got its first privileges as a town during the time when Sweden was ruled by Birger Jarl.

A number of Oriental glasses dating from the period of the Roman Empire, in many cases decorated with hollow cuttings, have been found in Denmark, Norway and Sweden; most of them are preserved in their entire shape. G. Ekholm has the merit of having recognized this Oriental glass within the bulk of material (about 260 specimens) found in Scandinavian tombs belonging to this period,³⁸ while for the Period of Migrations (the 5th and 6th centuries) and the 'Vendel Period' (7th and 8th centuries) a similar research work with a material that to a great extent consists of fragments, is now being undertaken by Greta Arwidsson.³⁹

³⁸ See in particular *Eurasia Septentrionalis Antiqua*, X, 1936, pp. 61—72.

³⁹ *Acta Archaeologica*, III, 1932, pp. 251—66. — Concerning the beginning of glass manufacture in Sweden, see H. Seitz, *Glaset förr och nu*, Stockholm, 1933, pp. 87—9, and C. R. af Ugglas, *op. cit.*, pp. 547 f. Window-glass was perhaps made here as early as in the 13th century, hollow glass not before the 15th century, and perhaps only in the 16th. Most glass was imported from Western Europe. Olaus Magnus (1490—1557) says in his *Historia de gentibus septentrionalibus* (Rome, 1555, Lib. XIII, 35 and 38, pp. 457 and 460; Swedish transl., III, Stockholm, 1916, pp. 71 and 75) that "glass is not at all, or only on rare occasions, to be seen on the tables of the Northerners". He thinks that glassware is not suitable for people who become unruly under the influence of liquor, as they would probably find pleasure in breaking the glass, which might not only cause injuries, but even lead to instantaneous death. — In view of the state in which Oriental glass has been found at Vreta and some other localities in Sweden, one is tempted to admit that there might be some truth in his argument!

Index.

In the text (but not in the Index) have been suppressed (chiefly for practical and economic reasons): 1) points marking emphatic letters; 2) signs indicating long vowels in the *writing* of Oriental names and words; 3) the article *al-* in geographical names; 4) the sign marking the letter 'ain in words of very frequent occurrence (e. g., 'Abbasid, 'Iraq); 5) the sign indicating the *hamza*; initial *hamza* has been suppressed in the *Index* as well. Most Turkish and Persian words are transcribed in conformity with the Arabic writing. The transcription of Oriental names and words occurring in quotations from texts written in European languages, has been normalized. The index also comprises the notes, and in the case of note references to an author whose name is mentioned on a previous page note only, that author is indexed anew. Many adjectives are indexed together with the noun from which they are derived.

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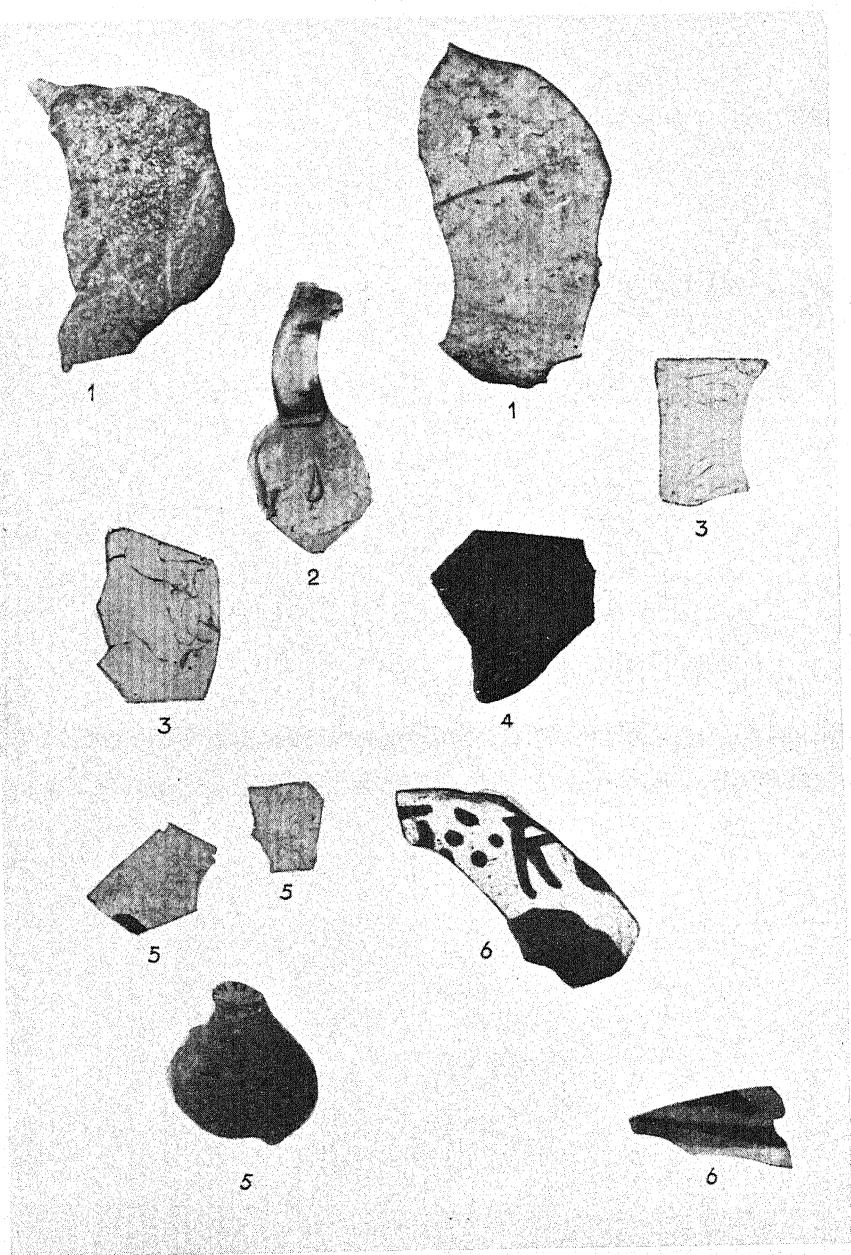
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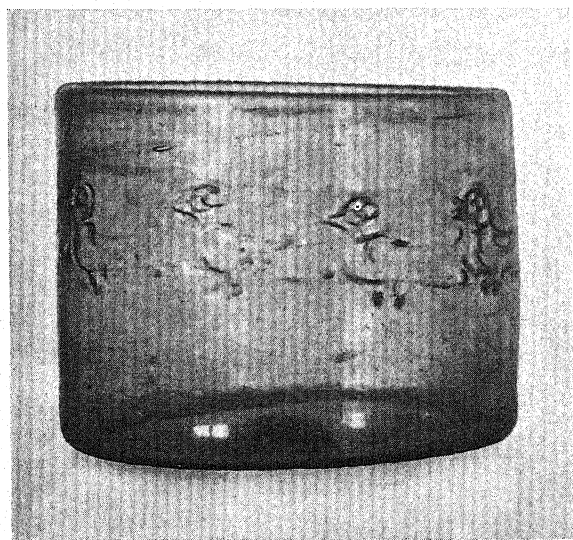
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PLATES

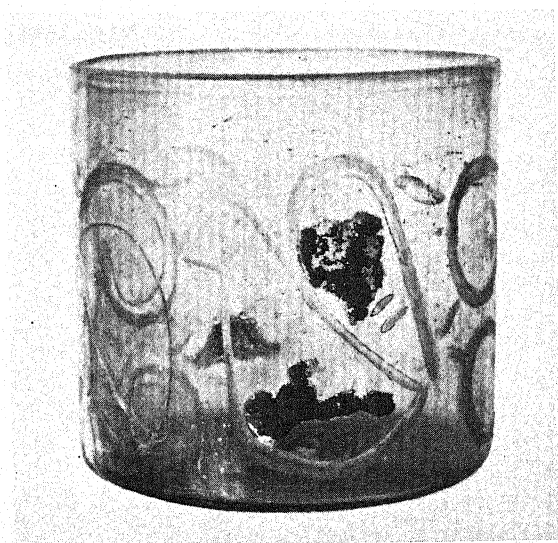


Fragments of glass vessels found at Barkarby, Uppland. 1—4 undecorated, Frankish or Oriental, 9th—10th century; 5 and 6 lustred, Egypt, 9th or early 10th century. State Historical Museum, Stockholm. $\frac{3}{2}$. (Cf. figs. 1—6.)

PLATE II

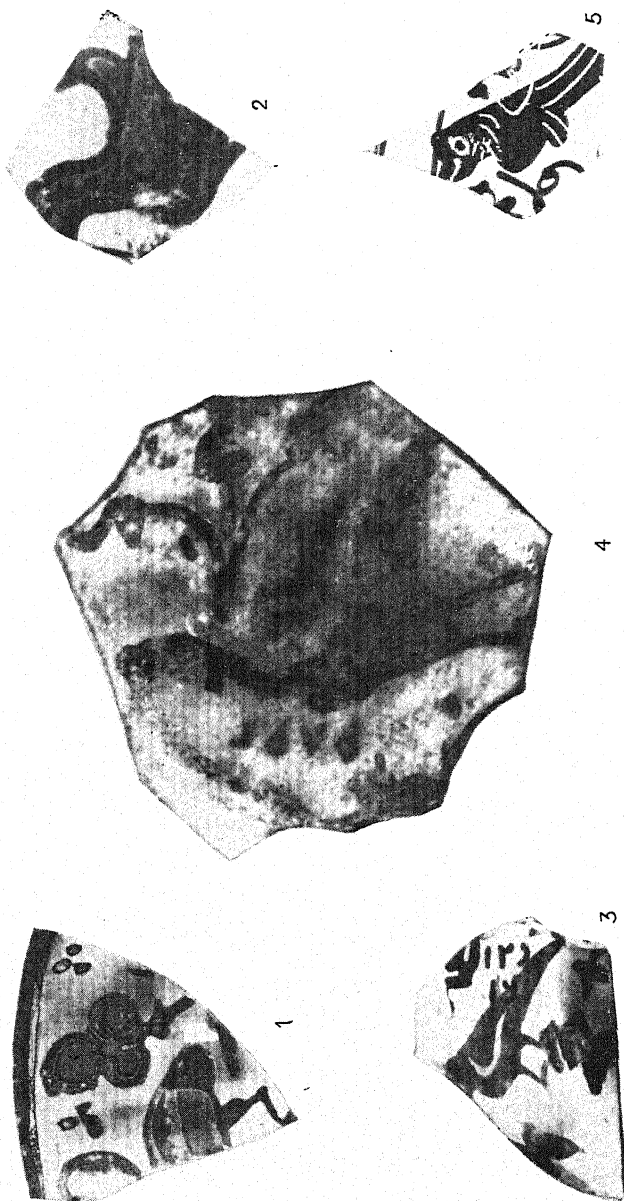


Bowl of glazed relief earthenware and green glass cup with pinched ornament, both found and made in Egypt. 1, about 800 or early 9th century, *ex D.* Fouquet Collection, Cairo (sold in 1922); 2, late 9th century or about 900, Arabic Museum, Cairo. ⁶/₈.

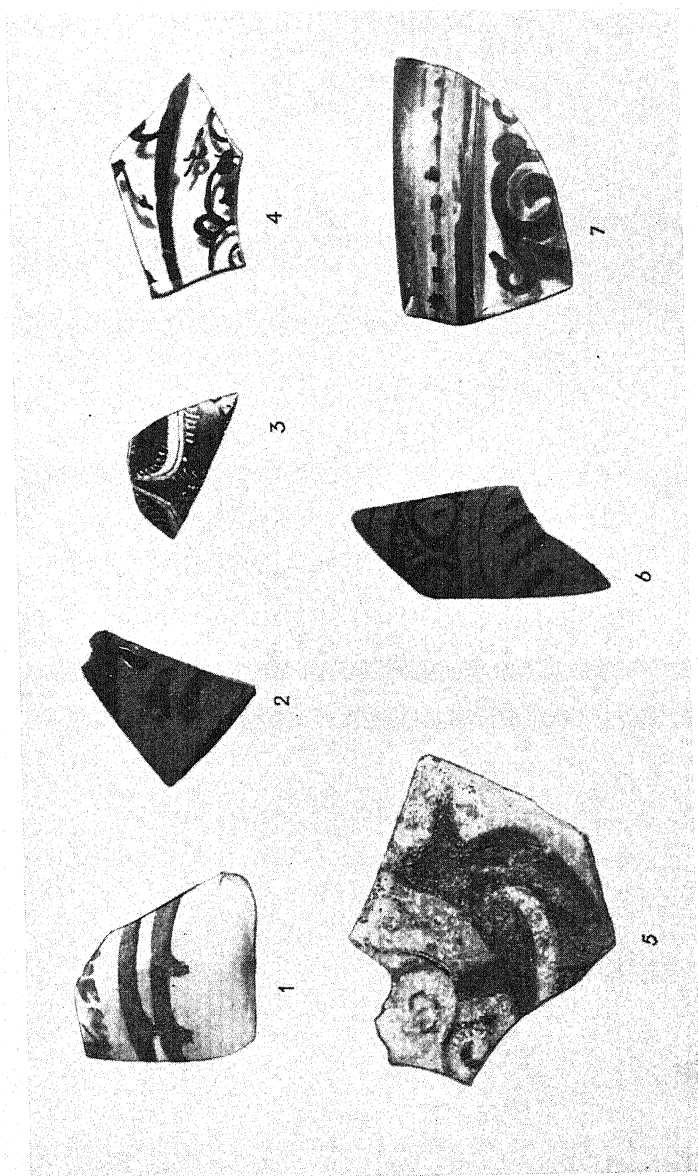


Glass cup with engraved decoration and remains of painting, found at Birka, in Björkö, Uppland. Iraq or Persia, 9th century. State Historical Museum, Stockholm. ²/_s.

PLATE IV

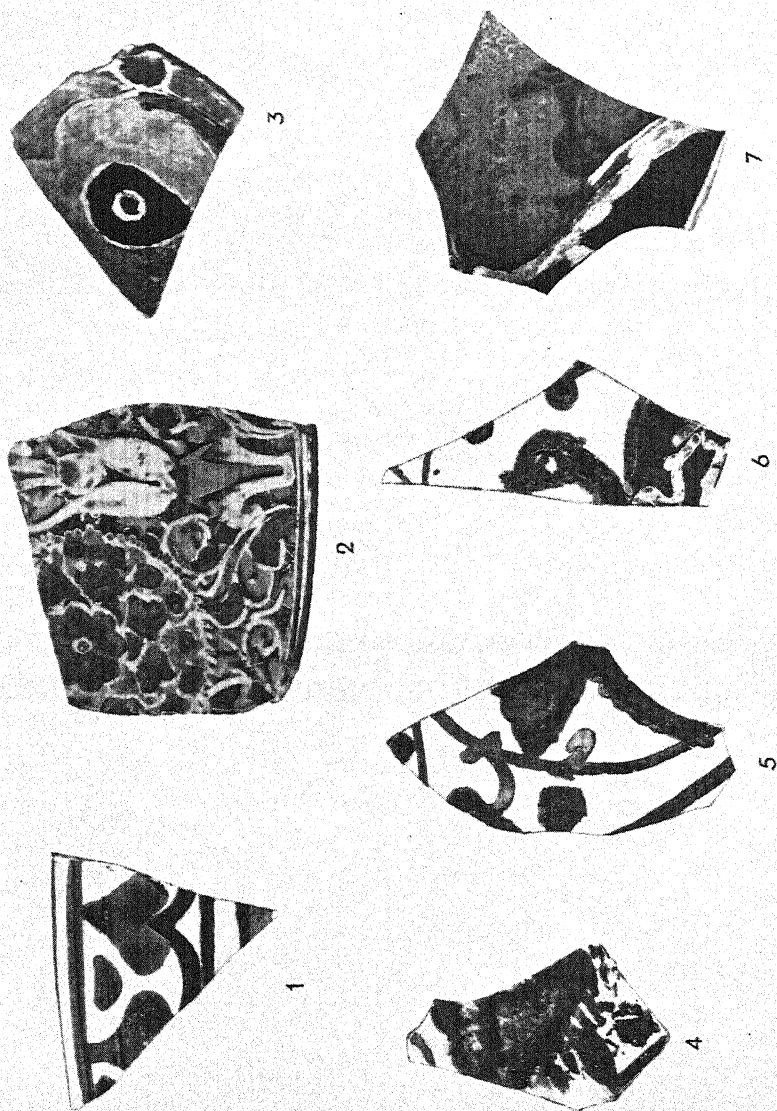


Fragments of lustrated glass vessels found and made in Egypt. 1, about 600, Arabic Museum, Cairo; 2, 7th-8th century, Benaki Museum, Athens; 3 and 4, 11th century, Arabic Museum; 5, same date, Kulturen, Lund. $\frac{1}{1}$.

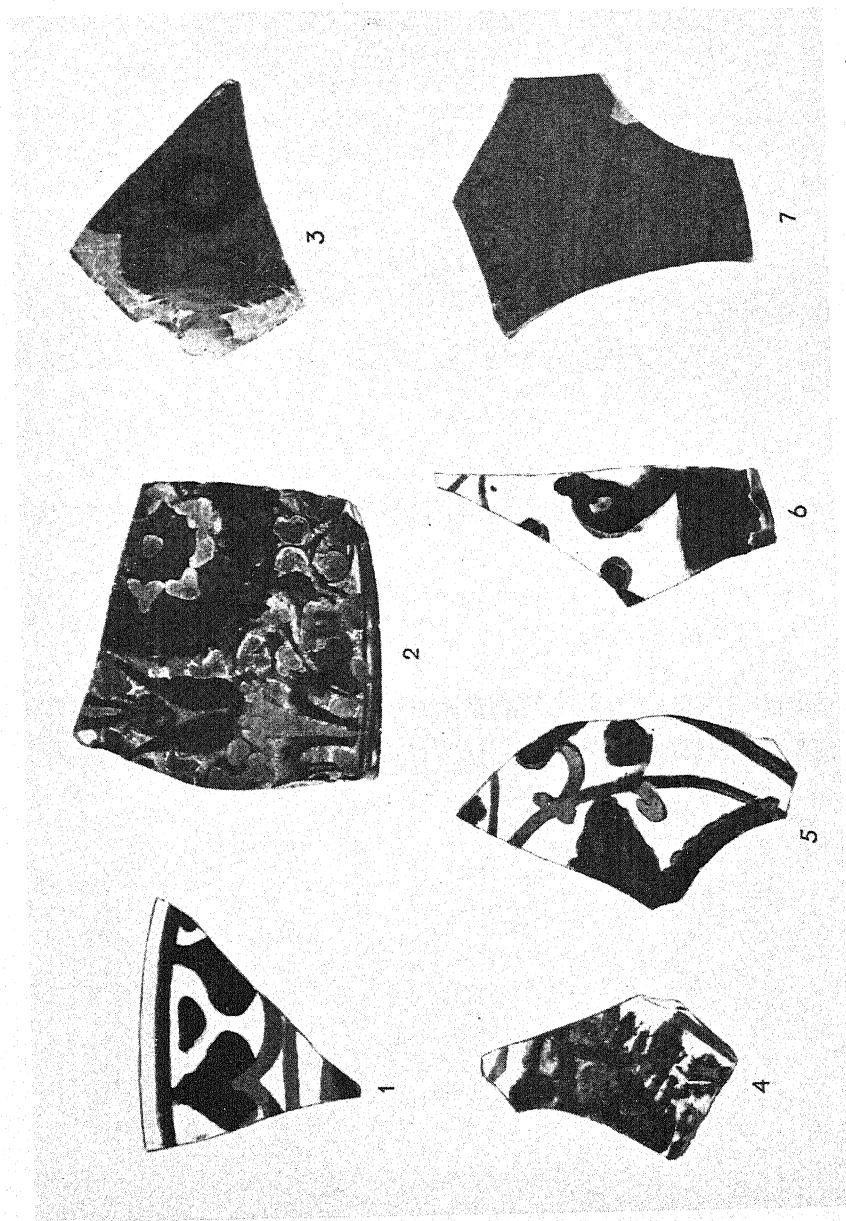


Fragments of glass vessels found and made in Egypt. 1, lustré, 10th—11th century; 2, enamelled, 9th century; 3 with enamelling, lustré and impressed white threadings, about 1000; 4 and 5, lustré, 9th—10th century; 6, lustré, 11th or early 12th century; 7, lustré, 10th century. National Museum, Stockholm. $\frac{2}{3}$.

PLATE VI

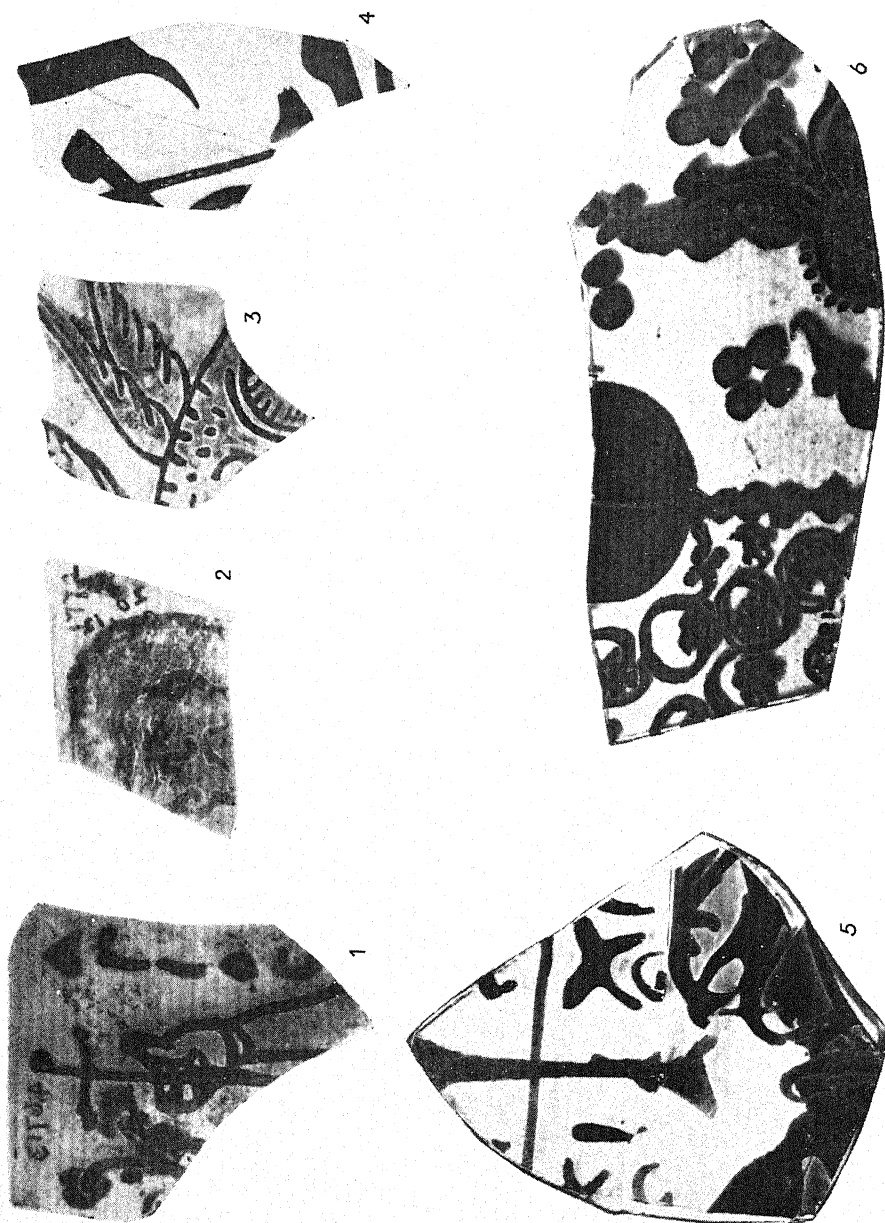


Fragments of glass vessels found and made in Egypt. 1, enamelled. 5th—6th century; 2—4 and 7, enamelled and lustrated, dating respectively from the 7th century or thereabouts, the 9th—10th century, the 7th—8th century, and the 11th century; 5 and 6, lustrated, 7th—8th century. National Museum, Stockholm. 1/1.



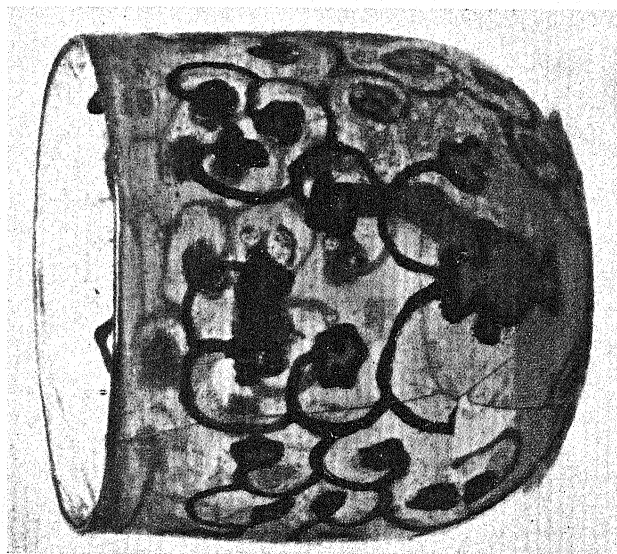
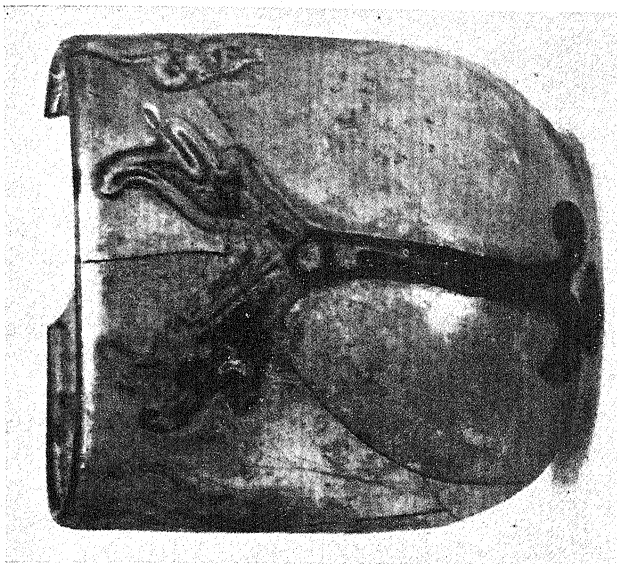
Reverse of the glass fragments reproduced in Pl. VI. $\frac{1}{16}$.

PLATE VIII



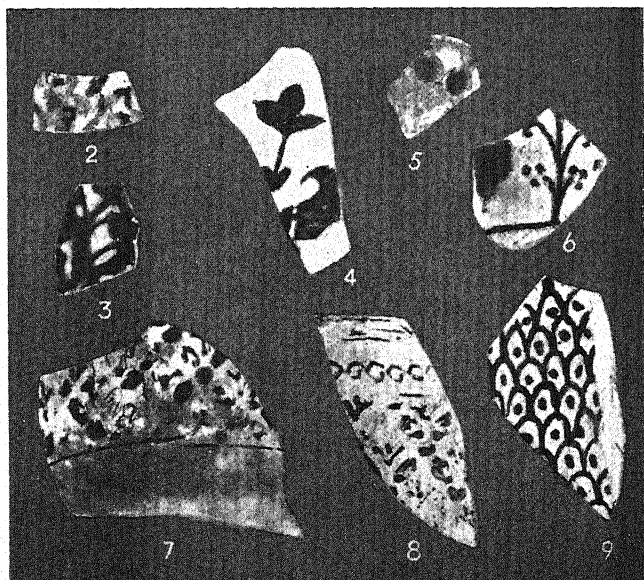
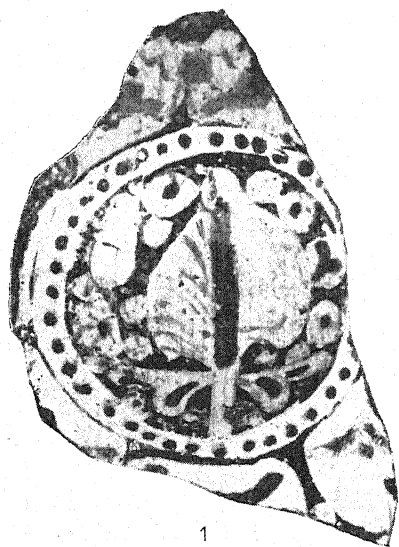
Fragments of lustrated glass vessels found and made in Egypt. 5, 5th—6th, the others 6th—7th century. 1—4, from Saqqara, Egyptian Museum, Cairo; 5, from Antinoë, Musée Guimet, Paris; 6 (one mere fragment preserved), Victoria and Albert Museum, London. ¹/₁.

PLATE IX



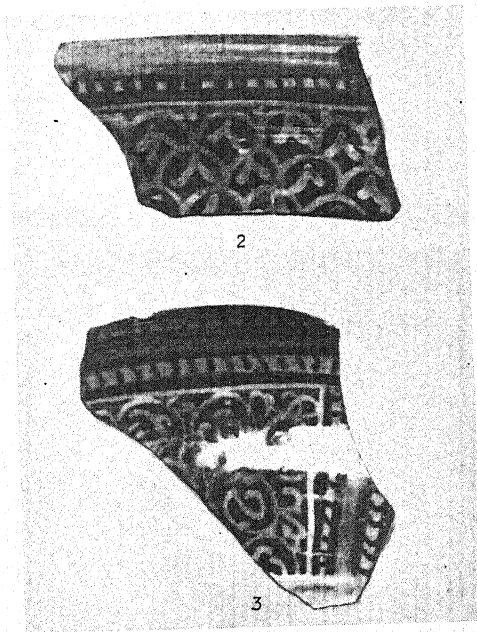
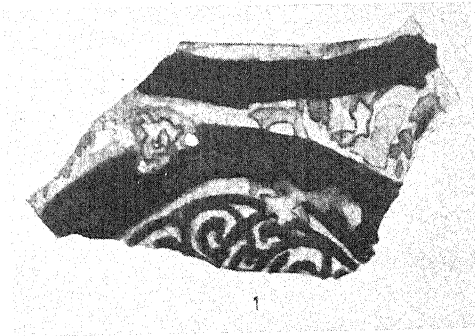
Lustrated glass cups found and made in Egypt. 6th—7th century. Victoria and Albert Museum, London. 1/1.

PLATE X



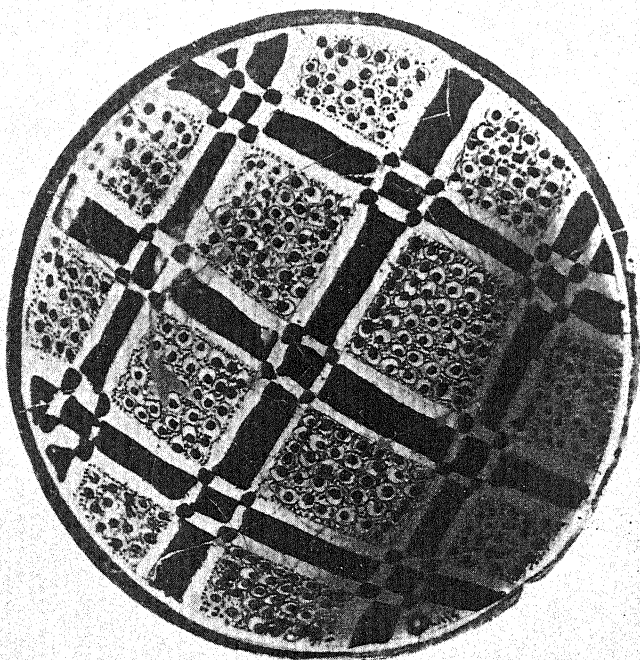
Fragments of glass vessels found and made in Egypt. 1, enamelled, 9th century, Arabic Museum, Cairo, ⁸/₅; 2—9, lustred, 5th—7th century, ex F. R. Martin Collection (1929).

PLATE XI

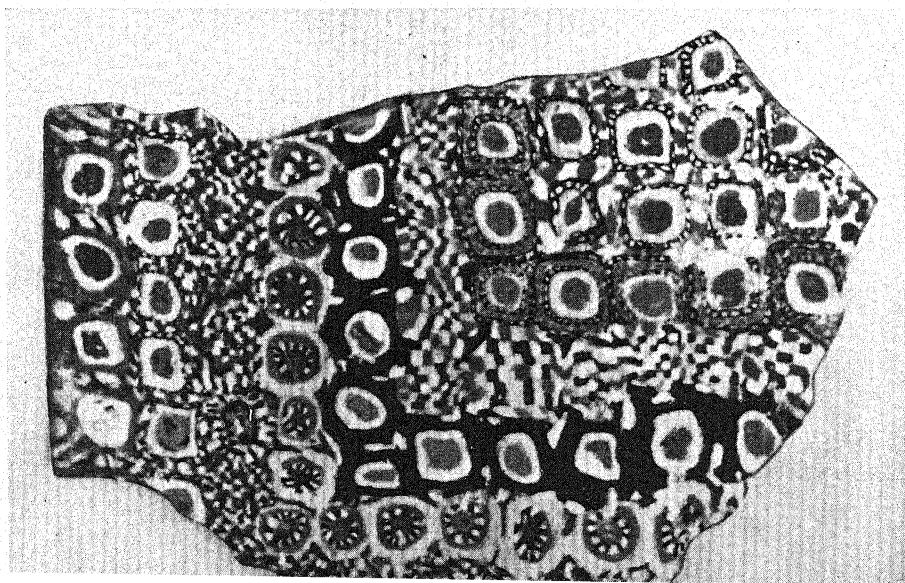


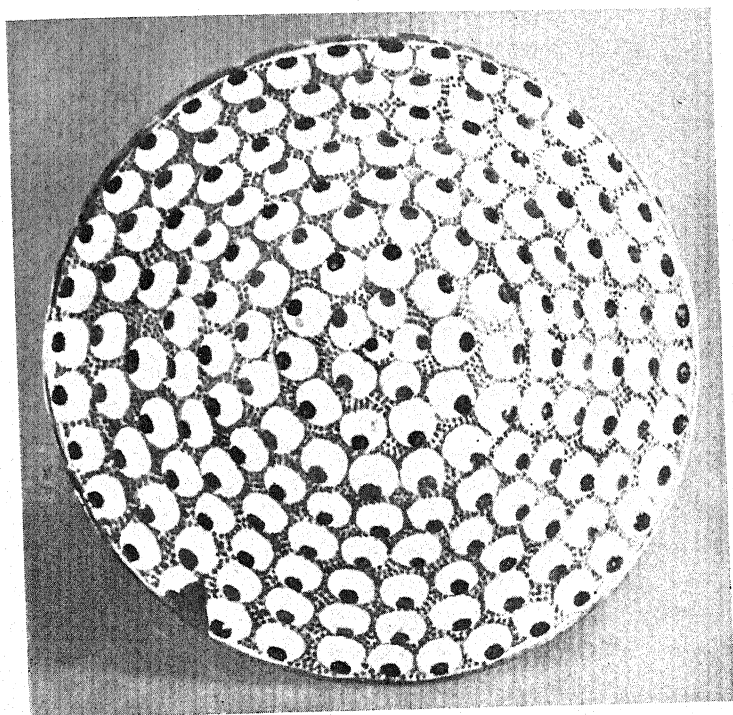
Fragments of lustrated faience cup (1) and of enamelled glass bowls (2, three more fragments preserved, and 3) found at Samarra; some of the painting resembles lustre. Iraq (the glasses of Egyptian type), 9th century. 2 and 3, Islamic Department of the Berlin Museums. ³/₄.

PLATE XII



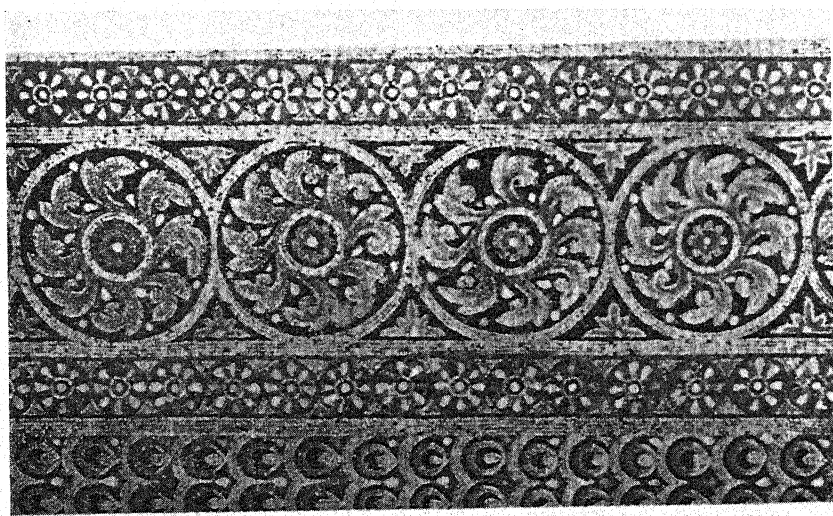
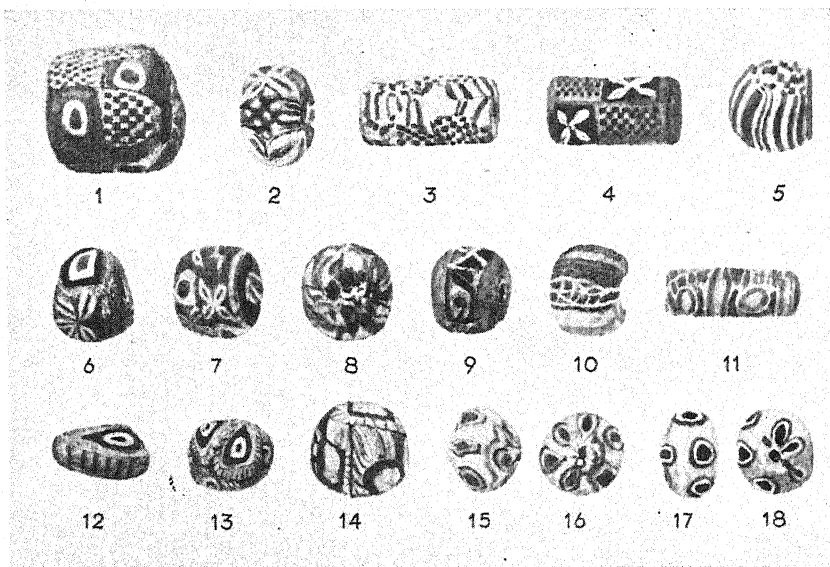
1. Lustred faience bowl found at Fustat. Baghdad, middle of 9th century. Arabic Museum, Cairo. $\frac{1}{8}$. — 2. Fragment of *millefiori* (mosaic) glass found at Samarra. Perhaps Iraq, first half of 9th century. Islamic Department of the Berlin Museums. $\frac{1}{1}$.



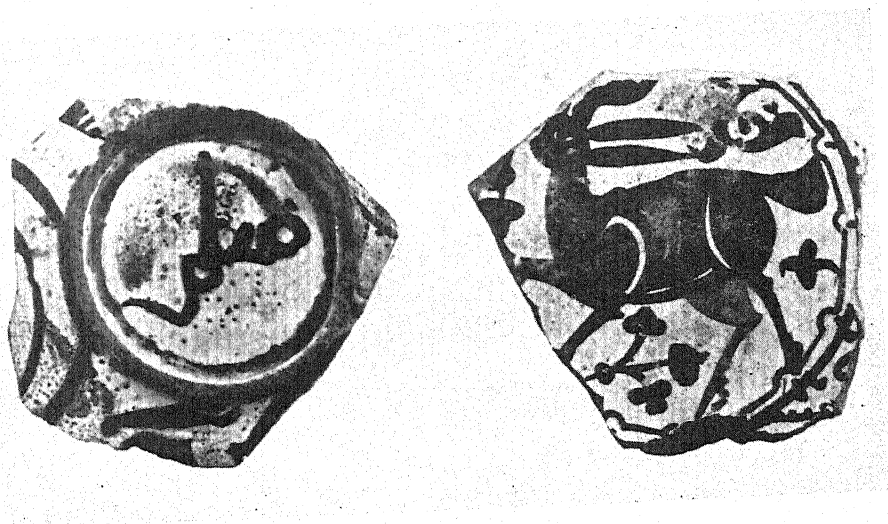


1. Earthenware bowl painted under the glaze. Samarqand, 10th century. O. Raphael Collection, London. $\frac{1}{4}$. — 2. Fragmentary lustrated faience cup found at Samarra. Baghdad, c. 860. Islamic Department of the Berlin Museums. $\frac{1}{3}$.

PLATE XIV



1—18. *Millefiori* (mosaic) glass beads found at Birka, in Björkö, Uppland. Probably for the most part Near Eastern, 8th—10th century. State Historical Museum, Stockholm. ¹/₁. — 19. Detail of glass mosaics (showing peacock's 'eyes') from 705—715 in the Great Mosque, Damascus.



1

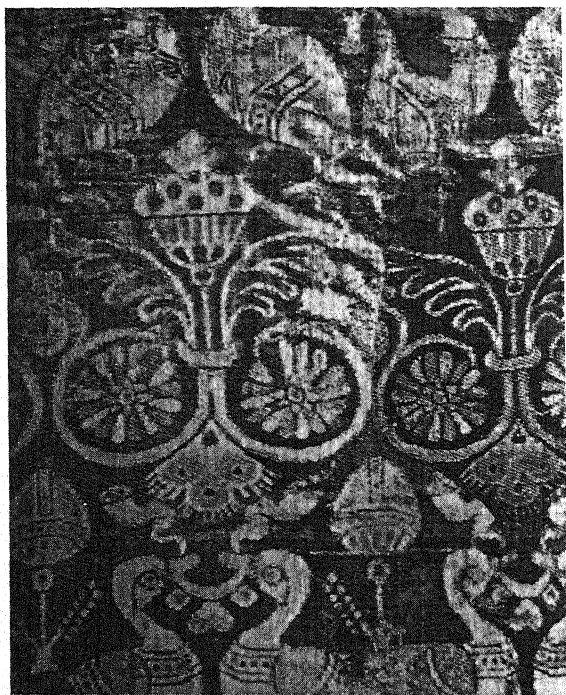


2

3

Fragmentary lustrated faience bowls found and made at Fustat. 1, signed "Muslim", early 11th century; 2 and 3, in the style of Sa'd, middle of the same century. Arabic Museum, Cairo.

PLATE XVI

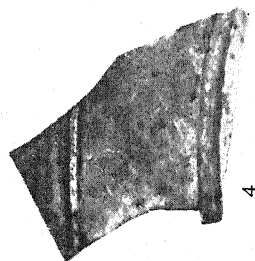
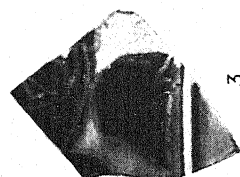
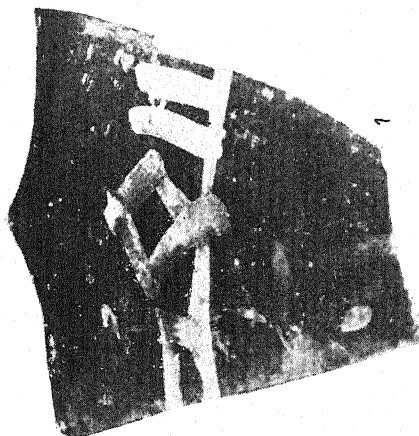
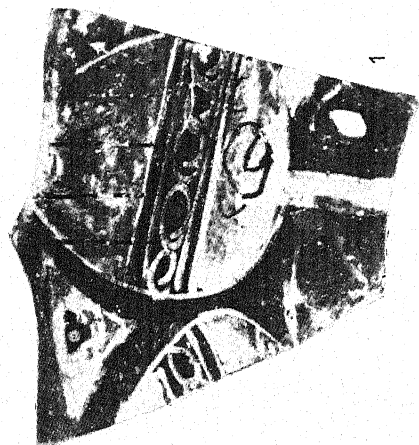


1. Lustred faience bowl probably found at Luxor, with representation of Coptic priest, signed "Sa'd". Fustat, c. 1130—50. Kelekian Collection, Victoria and Albert Museum, London. $\frac{1}{8}$ in. 2. Detail of silk compound twill. Near Eastern, 6th century or thereabouts.



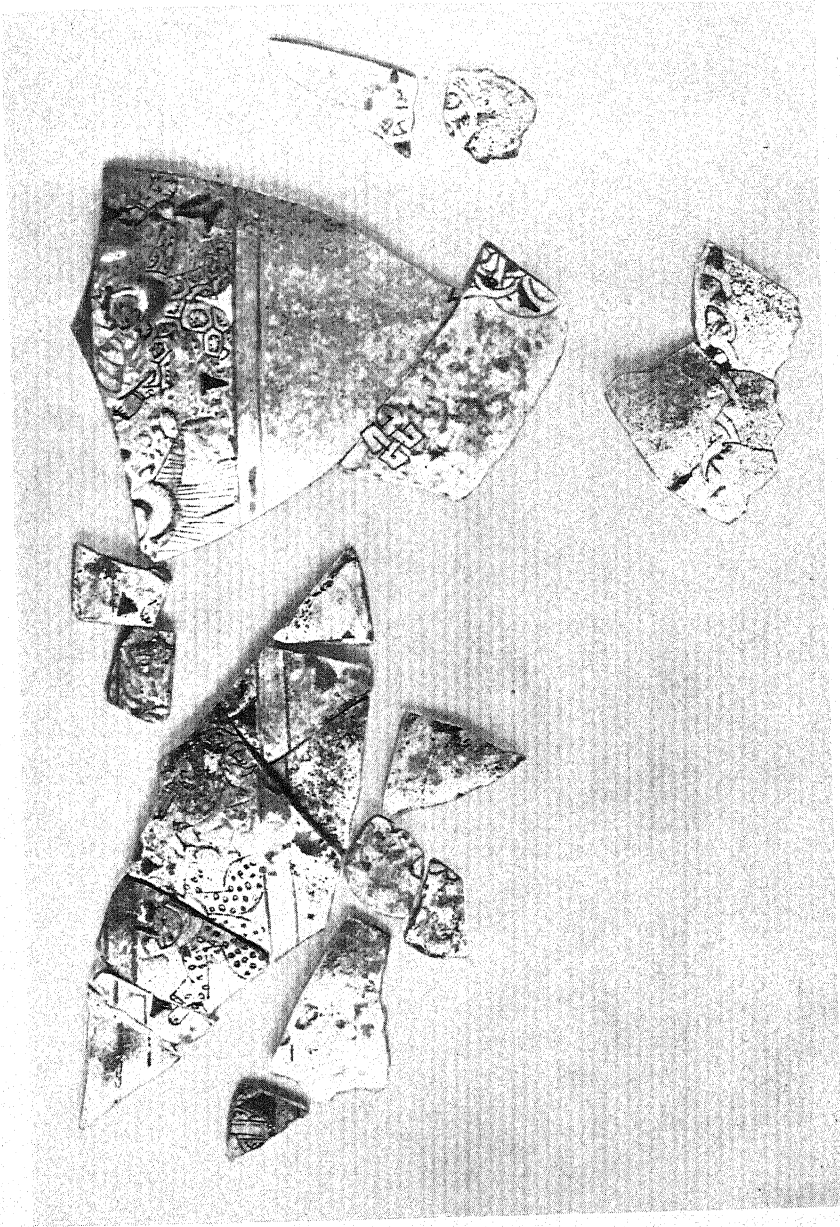
Fragments of lustred faience bowls found and made at Fustat, middle of 11th century.
 1, in the style of Sa'd, Arabic Museum, Cairo; 2, signed by that master,
 Gemeente Museum, The Hague.

PLATE XVIII



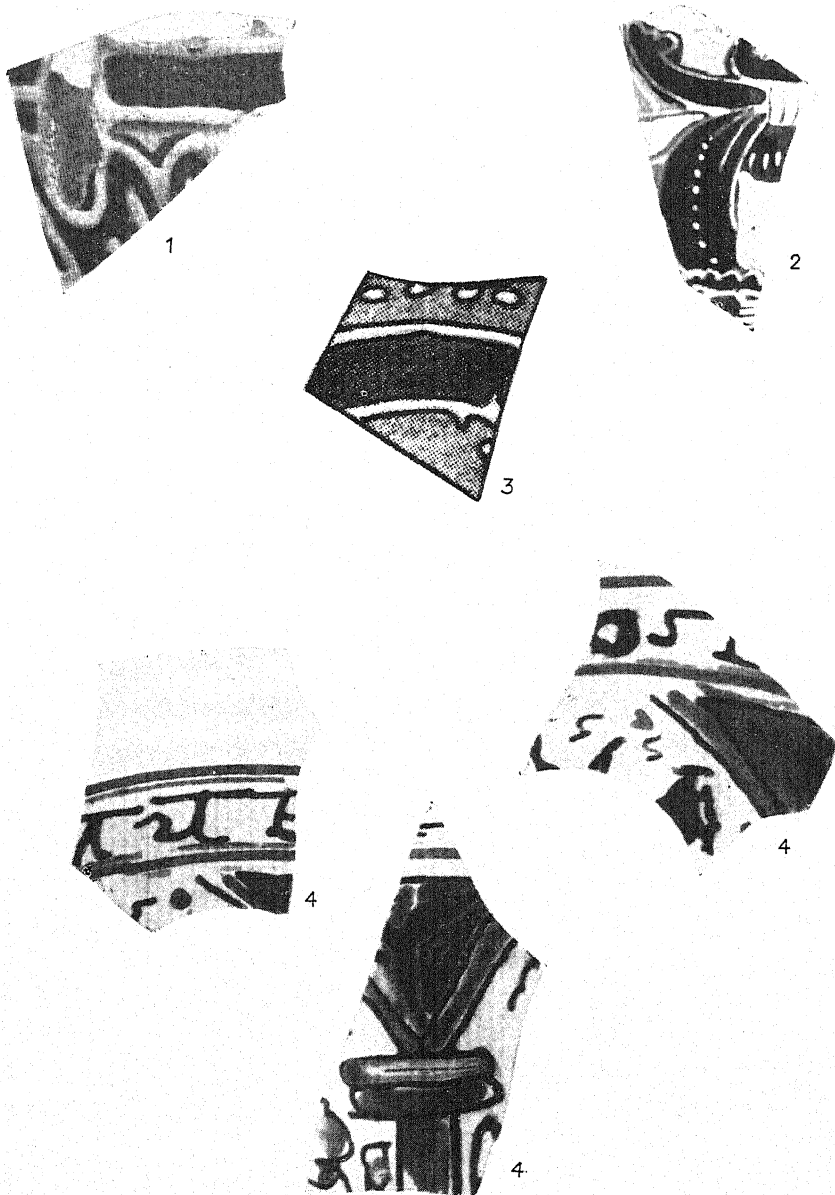
1. Fragment of lustred bowl of manganese violet glass found and made at Fustat, signed "Sa'd", middle of 11th century. Benaki Museum, Athens. — 2. Fragment of gilt and enameled glass goblet found at Ringstaholm, Östergötland, Syria (probably Aleppo), c. 1260. State Historical Museum, Stockholm. — 3, 4. Fragments of enameled glass goblets found at Fustat. Syro-Frankish, c. 1260—90. National Museum, Stockholm. — 1/1.

PLATE XIX

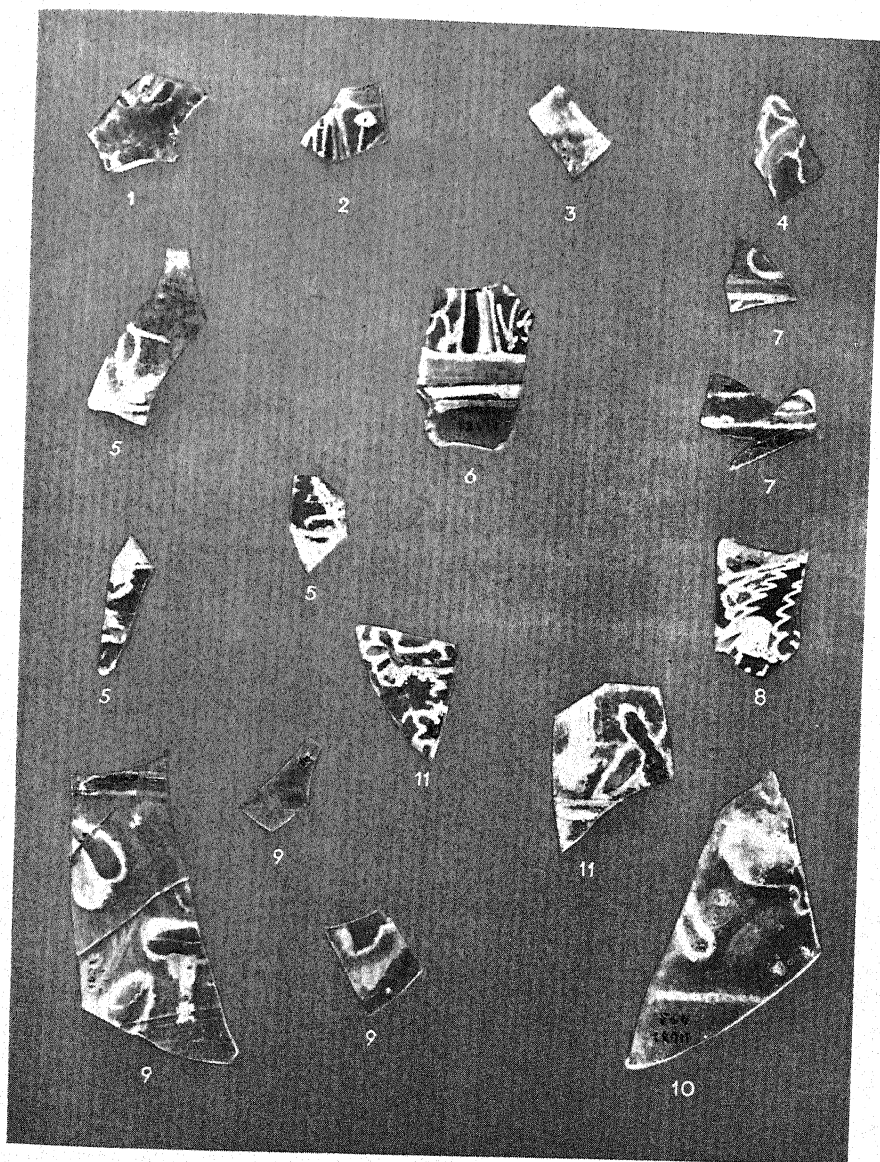


Fragments of enamelled and gilt basin of fluted glass found at Hälsingborg. Syria (probably Damascus), c. 1260—80.
Hälsingborg Museum. ²/₁₃.

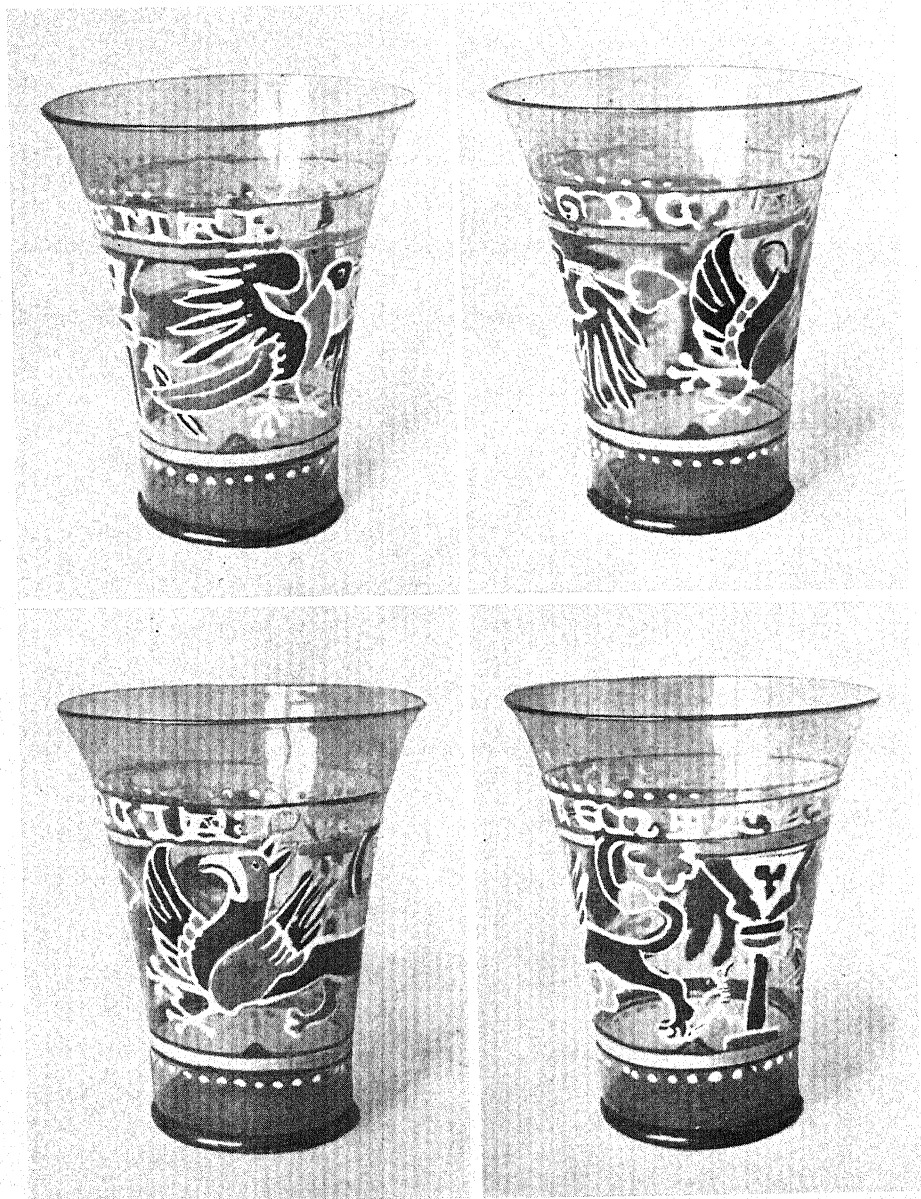
PLATE XX



Fragments of enamelled glass goblets. Syro-Frankish, c. 1260—1290. 1, found at Högby, Öland, State Historical Museum, Stockholm; 2, found at Fustat, Benaki Museum, Athens; 3, found at Old Lödöse, Västergötland, Gothenburg Museum; 4, found at Lund (cf. fig. 7), Kulturen, Lund. 1 and 3, $\frac{2}{1}$; 2 and 4, $\frac{1}{1}$.



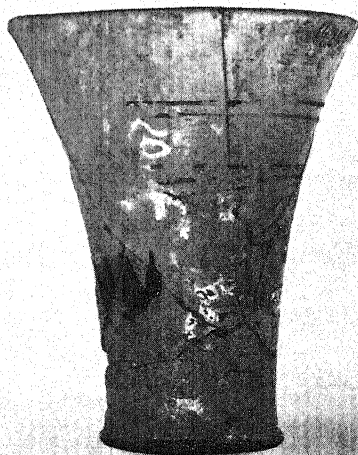
Fragments of enamelled glass goblets found at the Monastery of Vreta, Östergötland.
 1, also gilt, Syria (probably Damascus), c. 1280—90, the others Syro-Frankish,
 c. 1260—90. State Historical Museum, Stockholm. $\frac{3}{4}$ (Cf. figs. 8—18.)



Enamelled glass goblet. Syro-Frankish, c. 1260—90. Museum of Arts and Crafts, Frankfort-on-the-Main (ex Hohenzollern Museum, Sigmaringen). $\frac{1}{2}$.



1



1



2



3

Enamelled glass goblets, Syro-Frankish, *c.* 1260—90; for 2, also with gilt and silver, a Venetian origin is not entirely excluded. 1, said to have been found in Eastern Anatolia and bearing coats of arms of German type, Schlossmuseum, Stuttgart; 2, Virgin and Child between St. Peter and St. Paul, British Museum (*ex* A. Hope Collection); 3, with Suabian coats of arms, signed "Magister [illegible]" (P. Gaden Collection, Munich). 1 and 3, $\frac{3}{5}$; 2, $\frac{2}{5}$.